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SYDNEY: SATURDAY, JUNE 18, 1921.

No. 25.

## SOME EXPERIENCES IN GASTRIC SURGERY.<sup>1</sup>

By A. M. Cudmore, M.B., B.S. (Adel.), F.R.C.S. (Eng.),  
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Operations upon the stomach are practically confined to excision of a portion or the formation of an anastomosis between it and the small intestine. Gastro-enterostomy has an interesting history from the first anterior gastro-enterostomy performed by Wolfler in 1883 to the present day operation of posterior gastro-enterostomy, which has become almost standardized in its technique.

The most essential point in the performance of this no-loop operation is that the portion of the jejunum which is affixed to the stomach, should be that which is as close as possible to the commencement of the jejunum. In no case in which this has been done, have I ever observed any of the complications, such as regurgitant vomiting or jejunal ulcer.

Whilst observing English and American surgeons perform the operation of gastro-enterostomy I have been struck by the large size of the opening in the anastomosis and the elaborate use of clamps. Sherrin, who is an English authority on gastric surgery, assured me that he never failed to make the opening less than 2 in. (5 cm.). I have never made it as large as this and usually much smaller and have never noticed any ill results. If one considers through what a small opening the intestinal contents will pass in cases of stricture of the bowel, you cannot attach much importance to size of this artificial opening.

In what cases should gastro-enterostomy be performed? This field has become greatly narrowed and there is a tendency to attack the trouble directly instead of indirectly. Thus in cases of gastric and duodenal ulcers, excision is being performed in preference to gastro-enterostomy in a large number of cases. It should be borne in mind that the risk of excision is much greater than that of anastomosis. Personally, I favour at present gastro-enterostomy, unless there is marked induration about a gastric ulcer and it is excisable, in which case I would perform excision. As regards the inflammatory induration about a duodenal ulcer, in several cases where I have observed this, nothing more than gastro-enterostomy has been done and these patients although seen years after, have had no further trouble.

The greatest success of gastro-enterostomy is in cases of pyloric obstruction. As a palliative operation in pyloric cancer it is capable of adding one to two years to a patient's life. An interesting instance of this was that of a barber who had a cancer of the pylorus. I did a posterior gastro-enterostomy. He was able to return to his trade and continued in comfort for about a year, when symptoms of pyloric obstruction again set in. He returned to the hospital and begged for another operation. On opening the abdomen it was found that the cancer had greatly increased in size and had occluded the gastro-enter-

ostomy opening. It was impossible to do another posterior operation, so an anterior gastro-enterostomy was performed with complete relief to his symptoms for a few months.

Another case that illustrates the immense benefit that may occur as the result of this operation, was that of a very anæmic old man in the Adelaide Hospital, in the days before we did test meals as a routine. Every one was attempting to discover his blood disease, but one day it was elicited in his history that he vomited once a week and the vomit contained food taken several days earlier.

His condition was so low that it was with difficulty that we could persuade anyone to anæsthetize him. I performed a posterior gastro-enterostomy. Later he went to the Cancer Home, where he became so well that the diagnosis of cancer was doubted, but later on it was confirmed at an autopsy.

Surgeons are often confronted by patients who have already had an operation on the stomach. One case of interest that I have seen, was that of a girl upon whom a gastro-enterostomy had been done for gastric ulcer. She was not improved and later when I reopened the abdomen, it was discovered that the stomach was adherent to the abdominal wound. Freeing this greatly improved her condition.

There is an inflammatory condition that occurs in connexion with ulcers of the stomach and duodenum. This condition resembles cancer macroscopically and the symptoms such as pyloric obstruction and hæmorrhage may simulate those of cancer.

I have observed several both gastric and duodenal; I have already referred to the latter.

My first gastric case was in a market gardener. I unfortunately condemned him to death, but he was cured by a decoction of violet leaves. These are the cancer cures of the quack. Now I always attempt to confirm the diagnosis of cancer by the removal of an enlarged gland or a piece of the tumour.

Probably one of the most instructive cases of gastric surgery that I have seen is the following. A man, *æt.* 50, had suffered from duodenal ulcer for about 20 years. He had all the typical symptoms and used to carry a bush biscuit in his pocket, so that he was always able to relieve his pain by eating a little of it.

He had suffered from hæmorrhage from the ulcer on three occasions, two of them being "up" and one "down," as he graphically described it. On June 13, 1918, he was operated upon; a duodenal ulcer was found and a posterior gastro-enterostomy was done. He did very well and was apparently quite cured. However, after six months of good health, pain began to appear after his meals. His symptoms gradually became worse, until a severe hæmorrhage set in. This occurred just two years after his first operation. It certainly looked as if his old ulcer had become active or a fresh ulcer had formed.

In attempting to make out why this operation has been a failure, I thought that perhaps the gastro-enterostomy opening had partially closed, or that the

<sup>1</sup> Read at a Meeting of the South Australian Branch of the British Medical Association on March 31, 1921.

fact of not tying off the pyloric opening, as recommended by some, was the reason. At the operation we were surprised to find that the duodenal ulcer had healed and that a fresh ulcer had formed in the pyloric portion of the stomach.

I then decided to do a partial gastrectomy and included that portion of the duodenum that contained the ulcer. It was possible to do this without any interference to the gastro-enterostomy opening which was quite patent and would admit two fingers. As a result of this operation, which was performed on September 7, 1920, all his symptoms have disappeared and he has had no trouble with his digestion, but is still very careful with his diet.

His weight, which was 52.6 kilograms on leaving the hospital, has increased to 62.6 kilograms. The pathologist reported that the ulcers were inflammatory and that there was no evidence of cancer. This case has certainly a great bearing on the operative treatment of gastric ulcer. Gastro-enterostomy in this instance, whilst it cured the duodenal ulcer, was no bar to the formation of a gastric ulcer. This appears an argument in favour of dealing directly with ulcers of stomach, by methods such as excision, or if gastro-enterostomy is done, to obliterate the ulcer by the actual cautery. This method I have seen done by Balfour in the Mayo Clinic.

As regards the aids to diagnosing a cancer of the stomach, I put most reliance on a test meal. In cases where there is an absence of free hydrochloric acid and especially if this is confirmed, it is seldom that the diagnosis of cancer is wrong.

Of bismuth meals I have had practically no experience, so cannot speak of them.

There is no doubt that the very early diagnosis of cancer of the stomach is not easy and the majority of surgeons will, I think, agree with me that it is very exceptional to see a cancer of the stomach on which a radical operation can be done. Under these circumstances, I think any aid we have to early diagnosis should be encouraged. Surgeons should certainly explore the abdomen earlier, but as a rule the patients do not reach the surgeon until too late.

#### THE TREATMENT OF BACILLARY DYSENTERY.

By R. R. Stawell, M.D. (Melb.), D.P.H. (Lond.),  
Honorary Physician, Melbourne Hospital; Honorary Consulting Physician, Children's Hospital, Melbourne.

The part allotted to me in the important discussion of this evening is the subject of the treatment of dysentery in adults.

My own clinical experience of this modern treatment of dysentery in adults may be said to have been gained almost entirely at the war. At one time, at Lemnos, the number of cases of dysentery in our hospital was almost overwhelming. Fortunately we had with us on the staff of the No. 3 Australian General Hospital Dr. C. J. Martin, whose knowledge and advice and personal zeal were of absolutely supreme help to us in the matters of diagnosis and treatment of the disease. On the accuracy and

rapidity of the diagnosis depends success in treatment. Though in acute dysentery accuracy of diagnosis is entirely a matter of laboratory investigation with the microscope and with bacteriological methods, treatment may be started on the right lines as soon as the clinical signs show themselves.

Apart from the rare condition of bilharzia dysentery, we know that in white races there are two entirely different types of dysentery, the bacillary form and the amœbic form. The vast majority of acute cases of dysentery which we meet with in civil practice here, are cases of the bacillary form of dysentery. Except in returned soldiers and officers, who give the history of recurring attacks of acute dysentery, I have not seen recently a case of amœbic infection in Melbourne. It is somewhat remarkable that with many *Entamoeba histolytica* "carriers" in Australia there has been apparently no recognized outbreak of this form of the disease in this country. Of the treatment of amœbic dysentery I do not intend to speak. The treatment is clear; except in a certain small number of cases. Much has been written on the subject and the literature is accessible to us all. As regards the treatment of acute dysentery, I would suggest to you that until it is proved to be due to the *Entamoeba histolytica*, every case should be regarded as bacillary in origin and treated as such. The treatment should be the use of the anti-dysenteric serum, which should be given as early as possible and as unwaveringly as we give antitoxic serum in diphtheria. As an important adjuvant to the serum treatment is the so-called saline treatment of dysentery, obtained by the administration of dilute solutions of 1.8 to 2.7 grm. of sulphate of soda or sulphate of magnesia every two hours; thus, comparatively large doses should be given at exceptionally short intervals. Apart from the question of "diet" and "rest," in "salines" and in serum lies the whole problem of the modern treatment of dysentery.

Within the last two years two admirable and convincing papers have appeared in *The Medical Journal of Australia* on this subject, and with the conclusions of the authors of those papers I find myself in entire agreement. In his paper on "Dysentery in the Palestine Campaign," Dr. Bickerton Blackburn gave us the most valuable information of the improved methods which were adopted as the right routine in the treatment of all cases of bacillary dysentery. In August, 1920, there was published in the journal a very practical and sound paper on the same subject, written by Dr. James Bentley, superintendent of the Asylum for the Insane, Claremont, Western Australia, in which he made it clear how comparatively successful had been the treatment of dysentery in civil life by the use of sulphate of soda and of serum.

Yet, I am bound to say that I find in actual consultative practice that the ordinary treatment of cases of dysentery in adults is still the ordinary treatment of such cases as practised twenty years or more ago. Sulphate of soda is given with hesitation and in small doses; serum has not been given at all, but bismuth and opium and chalk have been largely used and salol and other strange drugs have been occasionally added. At the time of my consultation

<sup>1</sup> Read at a Meeting of the Victorian Branch of the British Medical Association on April 6, 1921.



the majority of the patients have been desperately ill or actually moribund.

As regards dosage of anti-dysenteric serum, large doses must be given, much larger than we gave at first in 1915 or 1916. Dr. Blackburn recommends that 100 c.cm. should be injected into the adductor muscles of the thigh on the first day and should be repeated on the second and possibly on the third day.

The sulphate of soda should, of course, be given in adults until obvious fecal matter has appeared. I may perhaps be permitted to mention that I have found the free use of sulphate of soda in infants already dehydrated with dysentery, a very difficult matter in actual practice; in adults I have not found this difficulty. It may be pointed out that the pharmacological action of salines is now well understood. The action of these cathartic salts may be described as the prevention of the absorption of water from the intestinal tract. Their purgative action is in no way the result of irritation or direct stimulation, for it is the extra fluid accumulation within the bowel which acts as the stimulus to peristalsis and flushes the bowel. In adults, salines given by the mouth give us the best "wash out" of the bowel. This power of cathartic salts of preventing fluid absorption from the bowel tract is increased by the addition of sulphate, in the form of dilute sulphuric acid. You will recognize that in recent literature and in clinical records of army cases there is a remarkable unanimity of favourable opinion among all who have had experience of the saline and serum plan of treatment of bacillary dysentery. On the question of "diet" in this disease, there is also a remarkable unanimity of opinion. Milk is unsuitable for these patients in the acute stage; of that I am now more than ever convinced. Why it should be so singularly unsuitable both for adults and infants suffering with dysentery, I do not know. In civil practice I find that milk is the diet generally given and bismuth and opium are the drugs generally prescribed; the very worst combination in treatment as we all ought to believe. Instead of milk, abundance of water and watery preparations, such as barley water, water arrowroot, or similar substances, should be given. I allow tea without milk to be taken freely. For patients who are seriously ill and much dehydrated, the subcutaneous injection of normal saline solution is of great value. In the early stages of the disease opium should not be given, I think, but morphine may be given hypodermically just as a surgeon may permit its use incidental to an operation.

In cases of protracted severe dysentery, that is, protracted because the treatment has been bad, or feeble and imperfect, what should be done? What should be done if the patient is vomiting incessantly? I think that in all these cases water and watery fluid foods should be given freely and normal saline solutions should be given subcutaneously and as soon as the vomiting lessens, "saline aperients" should be given as in an early active case and though I am doubtful of its value at this comparatively late stage, large doses of anti-dysenteric serum may be used.

The cases of chronic colitis, of dysenteric origin, with recurring attacks of acute dysentery are the most desperate cases to treat. It is more than doubt-

ful whether the present anti-dysenteric serum is of value in these cases. Ten years ago we tried autogenous vaccines in children and in adults with chronic or protracted dysentery with no apparent benefit. Now I use in adults salines as in acute cases, fluids very freely and, if there is a very markedly dehydrated condition of the patient associated with extreme lowness of blood pressure, I have suggested blood transfusion and the intravenous injection of gum saline solution, both of which have been used with striking but really very temporary benefit.

In cases of chronic post-dysenteric colitis, I allow adults any reasonable amount of meat and fresh fruit juices and mashed potatoes and turnip; everything, in fact, that would be reasonable, except milk. In reference to the treatment of chronic dysentery, some mention must be made of surgical measures. Quite frankly I have never seen any benefit from appendicostomy as a means for irrigating the bowel for adults. The proper irrigation of the bowels is, I believe, the wise use of saline cathartics and fluid.

I have seen benefit in one case of "chronic dysentery" obtained by the operation of right inguinal colostomy, but that was before the days of the coming of the saline treatment. I have seen several unhappy failures associated with right inguinal colostomy.

In conclusion, may I say in presenting for your consideration the subject of the treatment of dysentery in adults, that I have been anxious to emphasize the two important points in treatment? I recognize that much must be done further to improve the efficacy of the treatment by anti-serum. To-night we have been told by Dr. Patterson that some such improvement is possible, that next summer we can look forward to a very special production by the Commonwealth Serum Laboratory of anti-dysenteric serum of high potency, worked up, as it were, from the strains or races of dysentery bacilli found and isolated and cultured from infections here in Australia. I do trust and believe that full and wise use may be made of such a great advance in the method of treatment of this grave disease.

#### SPINAL ANALGESIA IN URINARY SURGERY.<sup>1</sup>

By Robert J. Silvertown, M.B., Ch.M. (Syd.), F.R.C.S. (Edin.),

(Continued from Page 479.)

##### Results.

##### (1) Renal Operations.

Only two renal cases were operated on under spinal analgesia, one a male, 69 years old, the other a woman of 54. In both, nephrectomy for calculous pyonephrosis was successfully performed. In the man the anaesthesia only rose to the nipples, and at the end of 45 minutes the patient began to feel the surgeon pulling on the pedicle. Ether was used and the operation continued practically without break and completed 15 minutes later.

In the case of the woman nephrectomy was completely performed without resorting to general anaesthesia, the analgesia having reached a sufficiently high level.

<sup>1</sup> Read at a Meeting of the New South Wales Branch of the British Medical Association on April 29, 1921.

Both these individuals were very toxæmic and undoubtedly benefited by the withholding of general anaesthesia. As each operation was expected to be protracted, 7 centigrammes of stovaine were used in the man and 6 in the woman. No after-effects were observed.

(2) *Suprapubic Operations.*

Analgesia at this level was induced in 77 cases. Where the operation was to be short, as with prostatectomy, only 5 centigrammes of stovaine were used. Even when the prostatectomy proved very difficult this amount was sufficient. Indeed it usually acts for 40 to 45 minutes.

Where extensive bladder operations had to be performed 6 or 7 centigrammes were given. In one case the operation lasted 1½ hours and was completely performed under spinal analgesia induced by 7 centigrammes of stovaine. In many of these cases the Trendelenburg position was used with perfect success. The analgesia does not rise any further on this account and if the patient tends to be at all faint, he feels and looks vastly better when put into the semi-inverted position. I shall discuss the occurrences of immediate and after effects later. Only in three of these cases was a little general anaesthetic needed towards the end of the operation, on account of insufficient stovaine analgesia.

(3) *Sacral-nerve-area Operations.*

A large number of urological operations come under this heading, and in certain of them spinal analgesia renders particular service. The method is particularly useful for perineal prostatectomy as well as for litholapaxy but its greatest use is found in connexion with securing a clear cystoscopic view in severe tuberculous cystitis. The difficulty of cystoscopy in these cases is well known. Even under the deepest general anaesthesia the bladder reflex will not disappear and all efforts to secure a medium free from blood may be unavailing. In such cases with local anaesthesia of the deep urethra and trigone one may secure a better result than with general anaesthesia, but the one method that will secure for the surgeon a view clear enough for accurate diagnosis and make ureteric catheterization possible, is spinal analgesia. The advantage of securing a completely still bladder in litholapaxy is quite obvious. The technique usually followed in operating at this level under spinal analgesia was to inject 5 centigrammes of stovaine with the patient sitting on the side of the table; he was then placed on his back with the shoulders raised on a pillow, but with nothing under the buttocks. This method is perfectly satisfactory, but anaesthetizes an unnecessarily great area. As most of the lumbar roots as well as the sacral are affected by this technique, there is considerable, though not great fall in blood pressure. In cases of severe tuberculous cystitis a splendid view of the bladder is obtained, the medium clearing easily, and far greater distension than with general anaesthesia being secured. Catheterization of the ureters (if not stenosed) is also easily performed but unfortunately the renal secretion is temporarily held up by reason of the fall in blood pressure. It is necessary to keep the catheter *in situ* for some hours to secure adequate specimens. To

obviate this drawback I tried in two ways to avoid anaesthetizing the lumbar nerve roots; firstly, by endeavouring to bathe only the sacral roots by very low injection and a special posture, and secondly, by ascertaining the minimum amount of stovaine necessary to anaesthetize the sacral nerve area alone.

Injection below the fourth lumbar spine is occasionally difficult and the theca, being a little narrower at this level, may be missed. If special care be taken, however, the injection may be made successfully at this level. If one fails, inject below the third spine. The stovaine is introduced with the patient sitting and leaning slightly forward and he is kept in the sitting posture for four minutes after the injection. By this means the solution falls around the sacral strands of the *cauda equina* and provided a minimum amount of stovaine is used, only the sacral nerves are anaesthetized. I found that this minimum amount is 2 centigrammes of stovaine. With the technique described this small amount is sufficient for cystoscopy and only interferes very little with the renal secretion. For all procedures undertaken through the natural channels 2 centigrammes are ample, except for litholapaxy where 3 centigrammes are advisable. The smaller amount also suffices for all perineal work except perineal prostatectomy where 3 centigrammes should be used.

With this sacral nerve area technique anaesthesia only appears on the "saddle area" of the skin, the sole of the foot and for a few inches above the lateral malleolus on the outer side of the leg as well as on a strip along the centre of the back of the lower limb. The patient is always able to move his lower limbs perfectly. The usual effects of fall in blood pressure seen with higher analgesias (pallor, faintness, nausea, etc.), are completely absent. This is, as it were, an example of an almost perfect form of regional anaesthesia induced with rapidity by a very simple technique.

An excellent demonstration of the fixation of stovaine to the nerves with which it is in contact in the first few minutes is afforded by turning the patient into the Trendelenburg position five minutes after the injection is made. If the above technique has been followed, it will be found that the area of analgesia rises very little or not at all.

At this stage I should like to quote a few cases illustrating some of the points I have been mentioning.

CASE 12.—W.F., a thin anæmic man of 42, had had severe bladder distress for 4 months and dull pain in the left flank for 3 years. Also some hæmaturia and pyuria. Tubercle bacilli were found in the whole urine. Cystoscopic view was impossible under general anaesthesia. Later spinal analgesia was induced with the old technique. Perfect view obtained. The whole mucosa was covered with tubercular ulcers. The right ureter was small, slightly congested and surrounded by tubercles; a catheter was inserted. The left ureter was "golf hole" and dragged out; it would not admit a catheter. The case was obviously bilateral but it was desired to test the functional power of the right kidney. The renal secretion was, however, diminished so much by reason of the fall of blood pressure that a functional test was impossible. The analgesic had risen to the skin

area supplied by the twelfth thoracic segment and there was paralysis of the lower limbs as well as moderate blood pressure fall.

CASE 9.—P.W., a thin man of 35 with a hectic flush, presented severe bladder symptoms but no renal signs. Slight pus and tubercle bacilli in the urine. Cystoscopy was attempted on two occasions with general anaesthesia. The bladder would only hold 60 c.cm. and although the utmost gentleness was observed, spasm could not be overcome nor the blood cleared. Later spinal analgesia was induced by the new sacral-nerve-area technique. The medium was cleared fairly quickly and the bladder actually made to hold 180 c.cm.. The left ureter was golf hole and stenosed a little way above the orifice. The right orifice also showed signs of disease but was catheterized. The catheter was left in for one hour to test the drainage under the new spinal analgesia technique. In this period 18 c.cm. drained away, that is, a little over 50% of the normal quantity.

CASE 99.—J.G., a male of 51 years. Internal urethrotomy for stricture performed under spinal analgesia with the sacral nerve area technique. The urinary drainage during each hour for the first three hours after operation was estimated. In the first hour he drained 30 c.cm. (50% of the normal), in the second 30 c.cm. and in the third 60 c.cm. (normal amount). With this technique, then, the drainage is only diminished by one-half at first, and at the end of two hours is flowing at a normal rate.

#### General Results.

In all 106 urological patients were submitted to operation under spinal analgesia; they were as follows:

|  |    |
|--|----|
| Upper Abdominal.—  |    |
| Nephrectomy .. .. .  | 2  |
| Lower Abdominal.—  |    |
| Prostatectomy .. .. .  | 60 |
| Excision of vesical papillomata .. .. .                      | 13 |
| Partial resection of bladder .. .. .                         | 2  |
| Radium implantation into bladder growth by cystotomy .. .. . | 1  |
| Cystostomy .. .. .   | 1  |
| Sacral Nerve Area.—  |    |
| Litholapaxy .. .. .  | 8  |
| Perineal insertion of radium into malignant prostate .. .. . | 6  |
| Internal urethrotomy .. .. .                                 | 6  |
| External urethrotomy for stricture with fistulae .. .. .     | 4  |
| Cystoscopy .. .. .   | 3  |

In four cases only was the analgesia imperfect or of insufficient duration; the addition of a small amount of general anaesthetic permitted completion of the operation.

No serious after-effects occurred at all. In six cases headache of varying duration followed; in three of these the headache was associated with some nausea and vomiting of short duration. The headache commenced on the second or third day and lasted from two to eight days. It was never severe, in three cases only slight and transient, but occasionally radiated down the cervical spine. No other after-effects which could be ascribed to the analgesic were observed.

Unpleasant effects during the operation were very

few. In four cases there was slight nausea with a little retching; this quickly passed off. In two cases faintness due to fall in blood pressure was overmuch but these two patients did well afterwards. At the present time we may consider faintness with retching during the operation and headache afterwards as the only practical disadvantages of stavaine analgesia. The passing faintness and retching is probably due entirely to blood pressure fall and not to toxicity of the drug, as only a very small amount is used and absorption is slow from the spinal theca. These phenomena may be expected if one does not control the stavaine in the theca so that splanchnic paralysis is diminished.

The after-effects constitute, however, the reason why so many surgeons fight shy of spinal analgesia. Various nerve paralyses have been reported but none in the last five years. These are very undesirable complications, but happily are practically always of limited duration. The cause is not thoroughly understood, but as they come on after an interval and sometimes affect distant parts such as one external rectus muscle of the eyeball, it seems as if there may be slow absorption of the stavaine from the theca with subsequent specific action on certain nerve cells.

Headache remains to-day as the one great objection to the method. In the series reported the percentage was low (5.7%) and in half of these cases it was slight and transient. It was never severe or of long duration. Still it is objectionable and if the surgeon finds that he gets too many headaches following spinal analgesia, he is sure to give up the method. Many theories exist regarding the cause. I shall best enunciate my own views by recounting my experiences in this series of cases. At first the stavaine of Billon of Paris (Barker's No. 2 solution) was used. During the first three months forty patients were injected with no after-effects whatever. Then four cases of headache occurred in quick succession. I had opened a fresh box of Billon's stavaine (12 ampoules), and these four cases of headache occurred with the first six ampoules used from the new box. This pointed of course to either increased toxicity or lack of sterility of the new batch of stavaine. Lack of sterility may be excluded, for the ampoules are autoclaved with every care and the stavaine itself is antiseptic. After this experience I used the ampoules prepared by Messrs. Bell and Croydon and Messrs. Allen and Hanbury, of London. Out of the remaining sixty or so cases of the series, headache occurred in two only; these patients were injected from different batches of stavaine.

It seems, then, that the quality of the stavaine supplied may vary so as to determine headache, whatever other precautions are taken. This is not the only cause, however, for the remaining two cases of headache occurred each with a separate batch of stavaine, and there were no other cases of headache among patients injected from these particular batches of 12 ampoules. The headache cannot entirely depend on fall of blood pressure for it occurred in one case of sacral-nerve-area analgesia where hardly any blood pressure fall occurred. Many factors of course may combine to cause this after-effect and all we can do is to reduce their action.



I believe that once the stovaine is fixed at the desired level, one should relieve any cerebral anaemia due to low blood pressure by keeping the head low and the feet raised. When the Trendelenburg position is used the good effects of this inversion are seen immediately; but where the operation is performed with the patient level, some good may be done by removing all pillows from under the head and placing a pillow under the heels and legs. In the hope of combating the effect of the lack of support to the arteries 1 c.cm. of pituitrin is injected 5 minutes before the spinal injection and is repeated 2 or 3 hours after the operation. When the patient is returned to bed the foot of the bed is raised on chairs for some hours and then gradually lowered.

In addition to the relief of cerebral anaemia and the use of pituitrin, one should make quite sure that the puncture technique is perfectly aseptic. Further, if headaches occur in more than one case injected from a particular box of stovaine ampoules, that box should be discarded.

#### Advantages in Urological Cases.

I have already stated the general indications for spinal analgesia. In two special branches of surgery, gynaecology and urology, there is room for a more extended use of this method of anaesthesia. In gynaecological work the very simple and innocuous technique described above for sacral-nerve-area analgesia is applicable to all the perineal and vaginal procedures, while with the higher analgesia necessary for abdominal section the Trendelenburg position is a happy attendant circumstance, diminishing as it does the unpleasant cerebral effects of lowered blood pressure.

In urology the advantages of spinal analgesia are manifold and there is not time to go into them all completely here. For prostatectomy it is the ideal anaesthetic. I have seen a man whose lungs and cardio-vascular system were in excellent condition and whose renal efficiency was high, die of pure shock following suprapubic prostatectomy under general anaesthesia. Shock is rare as the sole cause of death after prostatectomy, but its presence in minor degrees no doubt precipitates a uraemic development in some cases. Spinal analgesia is a perfect block to the impulses giving rise to shock in prostatectomy.

With spinal analgesia relaxation of the abdominal muscles facilitates the enucleation of the prostate, the harmful effects of circulating anaesthetics on damaged kidneys are avoided and immediate haemorrhage is lessened by reason of the lowered blood pressure.

In the case of litholapaxy a perfectly still bladder is obtained, this being an ideal condition for the crushing manœuvres.

In cases of severe reno-vesical tuberculosis accurate diagnosis by cystoscopy is rendered possible by spinal analgesia.

For all perineal, intra-urethral and intra-vesical work, the sacral-nerve-area analgesia is so free from general effects that it constitutes the ideal anaesthetic.

In bladder operations the method is indicated if there is renal damage from sepsis or obstruction.

In renal operations the use of general anaesthesia is preferable.

#### Disadvantages of Spinal Analgesia.

It has been urged against spinal analgesia that its mortality is high. In connexion with this statement two important points must be emphasized. Spinal analgesia has been as a rule reserved for desperate cases where general anaesthesia was feared, and secondly, many people have injected stovaine in a haphazard way without bothering themselves about the fine details of technique. Regarding the first point two conclusions seem to be justifiable; the reservation of spinal analgesia for desperate cases is an admission of its greater safety, and the mortality of a method so reserved would not be its general mortality.

In regard to the second point of attention to fine details of technique, it is extraordinary that this obvious necessity is often overlooked. The very nature of the method demands that the utmost care be taken in injecting the drug. Surgeons have repeatedly given such large doses of stovaine and have paid so little attention to the all-important point of posture before as well as after the injection, that they have come unfairly to accuse the method of failing to secure adequate analgesia on the one hand, and of being dangerous on the other.

Where, however, the method has been used by workers who respect dosage and who do not entirely reserve spinal analgesia for desperate cases, the results are extremely good. Reports on many series of cases varying between several hundreds and several thousands have been published in the last 10 years showing a mortality of nil. (5, 6, 7) A recent writer, (8) in reviewing the literature, reports that in a series of 28,746 cases between 1908 and 1914, the mortality was 1 in 1,200, while in over 16,000 cases studied between 1915 and 1917 there was only 1 death.

An additional point is that the remote mortality after general anaesthetics should not be forgotten; this is especially important as regards chest complications.

The only complication of spinal analgesia to be feared at the present time is after-headache. I have put forward some suggestions as to the prophylaxis of this unpleasant sequela. In the series reported on headache only occurred in 5.7% of cases and was not severe in any.

The chief disadvantage of spinal analgesia in my opinion is that the patient is conscious. Psychical shock cannot be disregarded and should be avoided by taking the usual precautions of screening the patient's face and maintaining silence during the operation. An anaesthetist should always be in attendance and if the patient is in the slightest degree nervous, a mask on his face and enough ether simply to create the smell of the drug will quieten his fears. With an extremely nervous patient spinal analgesia should not be used. On the other hand many patients dread a general anaesthetic and to them spinal analgesia is welcome.

#### Conclusions.

(1) Spinal analgesia is preferably reserved for operations below the level of the umbilicus.

(2) Gynaecology and urology offer a field for the more extended use of spinal analgesia.



(3) The most important technical points are to use Barker's outfit, to inject the minimum amount which will suffice for the particular purpose, and to posture the patient before the injection and during the fixation period so as to secure maximum action on particular nerve roots.

(4) The advantages, particularly in urinary cases, are numerous and the disadvantages few. The chief objection is headache which can, however, be largely avoided by taking certain precautions.

(5) Limitation of the analgesia to the sacral-nerve-area is possible by employing a simple modification of the technique. Thereby is attained the ideal anaesthesia for many gynaecological, urological and anal operations.

#### References.

- (1) A. M. Page, *The Lancet*, June 10, 1916.
- (2) A. E. Barker, *British Medical Journal*, March 23, 1907.
- (3) Thos. Jonnesco, "*La Rachianesthésie Générale*," Paris, 1919.
- (4) Lawrie McGavin, "Spinal Anaesthesia," in Choyce's "Surgery," 1915.
- (5) Mahfouz Bey, *The Lancet*, Vol. II., 1918, p. 5.
- (6) Smith and Allen, *Urologic and Cutaneous Review*, November, 1918.
- (7) Thos. Jonnesco, "*La Rachianesthésie Générale*," Paris, 1920.
- (8) J. R. Wells, *Annals of Surgery*, April, 1920.

### Reports of Cases.

#### SARCOMA OF THE 'STOMACH.'

By Alfred Austin London, M.D. (Lond.),  
Consulting Surgeon, Adelaide Children's Hospital.

On January 8, 1910, and again on January 11 I saw, at the request of Dr. Cooper (to whom I am indebted for permission to publish these notes), a minister of religion, *et. 37*, the subject of profound anaemia for which no cause could be ascertained, either by physical examination or by the most careful interrogation of the patient as to his past history. The blood examination negatived any suggestion of pernicious anaemia; no gastro-intestinal hæmorrhage had apparently occurred. The illness dated from about five weeks before our first consultation and had been insidious in character till within a few days. At first grave doubts were entertained as to the likelihood of the recovery of our patient, but he did gradually improve and, acting upon our advice to take a sea voyage, he booked his passage for Europe on March 11, 1910.

On March 6, 1910, he drew Dr. Cooper's attention to some "coffee grounds" vomit and to a "tarry" stool. Pain had preceded the act of vomiting and there was elicited a description of what was considered as typical "hunger-pain." This may, however, have been rather suggested by leading questions put to the patient some weeks before. The diagnosis seemed now to point fairly clearly to duodenal ulcer, with some mental reservation as to malignant disease. Other independent opinions were sought and these opinions supported our views, both as to the probable nature of the case and as to the undoubted necessity for an exploratory operation.

Accordingly, on March 12, the patient was anaesthetized by Dr. Cooper and, with Dr. Humphrey Marten's assistance, I explored the abdomen. An incision was made on the left side, from the ensiform cartilage to the navel, through the rectus muscle. On handling the stomach a tumour was felt. After delivering the stomach from the abdominal cavity, the tumour was found to be in the interior of the viscus. When the stomach was opened, it was ascertained to be embedded in the posterior wall, rather nearer the greater than the lesser curvature and in the pyloric half. The

tumour was the size of a small lemon and, except for two pits in the mucous membrane, which allowed a probe to pass some little distance into its mass, it was but loosely attached, either to the mucous or the other coats of the stomach. At all events, it was shelled out with ease and with but trifling hæmorrhage. The incision in the mucous membrane, in the wall of the stomach and in the abdominal wall were then closed in the usual manner. The patient made a good recovery and sailed for Europe on the twentieth day after the operation.

At first it was thought that the tumour was probably a fibro-myoma, or possibly a degenerated hydatid cyst. On section it was judged to be a sarcoma and microscopical examination by Dr. Cavenagh-Mainwaring corroborated this. He reported it to contain both round and spindle cells, the latter preponderating, and he thought that appearances were in favour of a somewhat low degree of malignancy.

Early in October, 1910, the patient returned to Adelaide, having put on about 10 kilograms in weight. Now (February, 1921), eleven years after the operation, he is in perfect health.

#### Remarks.

Those who wish to know something about primary sarcoma of the stomach would do well to consult a paper by Sir A. MacCormick and Professor Welsh, of Sydney,<sup>(1)</sup> for there is next to nothing to be gleaned from the ordinary text-book. Spencer and Gask do, indeed, under the heading of carcinoma of the stomach, after describing the ordinary forms, mention as a third variety "a still rarer growth, . . . a well localized, sessile or pedunculated tumour," that often has "a sarcomatous, rather than carcinomatous, structure." Cheyne and Burghard comment on the extreme rarity of the disease; Bland Sutton does not even mention it.

In the paper alluded to above, MacCormick describes two cases met within a few months of one another and successfully operated upon by him. There is a further reference to a specimen in the Sydney University Museum, which was investigated in 1899 by Dr. Camac Wilkinson. The only other case reported in Australian literature, as far as I know, is that of Mr. F. D. Bird, of Melbourne.<sup>(2)</sup>

#### Diagnosis.

As none of these five cases were suspected before operation, we may assert that primary sarcoma of the stomach is a disease that presents considerable difficulty in diagnosis. This difficulty is partly attributable to the absence of symptoms suggesting that the stomach is involved, even when a tumour in the abdomen is obvious, and partly to the different forms which the disease seems to take. There may be no tumour felt at all, as in my case and as in Wilkinson's, although the dimensions of the latter were 10 cm. by 10 cm. In Wilkinson's case the symptoms were those of gangrene of the lung, which was secondary to a subphrenic abscess, the result of ulceration right through the growth. In my case the attack of profound anaemia was thought to be due to the presence of a duodenal ulcer. In Bird's case the tumour was indeed diagnosed as a massive tumour of the stomach, but hydatid disease was also considered to be a possibility; the signs of gastric disorder were but slight. In MacCormick's cases there were absolutely no stomach symptoms. In one there was a movable tumour, thought to be either a cystic kidney or perhaps a liver hydatid; the other was tentatively regarded as a malignant tumour, but it was doubtful in what organ it originated.

#### Prognosis.

The brilliant operations by Mr. Bird and Sir A. MacCormick prove that in primary sarcoma of the stomach free removal of the tumour and of portions of the viscus may be practised with excellent immediate results. On the other hand, Wilkinson's specimen shows how a fatal result may occur if the case be left to Nature, whilst mine illustrates the possible danger of bleeding to death. As regards remote results, it appears that Bird's patient survived three and a half years after the operation and was able to work to within four months of his death, which was due to a large epigastric recurrence. By the courtesy of Sir A. MacCormick I am permitted to add that his first patient was alive and well four and a half years after the operation, whilst the second patient lived nearly three years and succumbed to

<sup>1</sup> Read at a Meeting of the South Australian Branch of the British Medical Association on March 31, 1921.

diarrhoea. He was believed to have had a recurrence, but no *post mortem* examination was made. So that, even after a very serious operation, a lease of three years of life may be expected, even should recurrence take place.

#### Treatment.

From what has been said above, it is obvious that, as a correct diagnosis cannot be arrived at otherwise, an exploration is imperative. The question arose in my mind as to whether I ought to have removed some of the stomach and not merely contented myself with shelling out the tumour. Thomson(3) relates a case in which he removed the greater part of the stomach and found subsequently that the tumour was a benign fibro-myoma.

#### Macroscopical Appearance.

Amongst these five cases there is one example (Mr. Bird's) of the infiltrating form of sarcoma, the infiltration spreading along the sub-mucous tissue into the duodenum. Mine was a localized tumour, probably arising from the sub-mucous tissue. Wilkinson's represented a later stage, *viz.*, a tumour which had undergone ulceration and perforation of the stomach wall, with the formation of a sub-phrenic abscess. McCormick's were tumours projecting from the peritoneal surface of the stomach and connected with that viscus by a comparatively narrow neck in the one case and by a very extensive attachment in the other. Besides these infiltrating and solid tumours, another variety is described by Maylard, of Glasgow,(4) who has reported two large cystic sarcomata of the stomach.

#### References.

- (1) McCormick and Welsh: *Aust. Med. Gazette*, July, 1906.
- (2) F. D. Bird: *Intercolonial Med. Journal*, February, 1903.
- (3) Thomson (Galveston, Texas): *Southern Surg. and Gynec. Assoc. Journ.*, Vol. XXI., 1909, quoted in "Epitome" of the *British Medical Journal*, 12. II., 1910.
- (4) A. Ernest Maylard: *Annals of Surgery*, October, 1910.

### A CASE OF EMBOLISM OF THE CEREBELLAR ARTERIES.<sup>1</sup>

By R. Humphrey Marten, M.D. (Cantab.).

Cases of embolism, thrombosis and hæmorrhage of the cerebellar arteries are very uncommon, so that I thought perhaps these few short notes might be of interest. Fortunately for the patient, she survived the illness, so that a *post mortem* verification of the diagnosis was impossible.

The notes are as follows: A lady, Miss G., aged 52 years, had always had fair health. She had rheumatic fever when young, which left her mitral valve diseased. Fourteen years ago she had an attack of left-sided peripheral facial paralysis. There was no recovery from this lesion; but as time went on it was difficult to say, unless very carefully looked for, which side had been paralysed, as contracture of the left facial muscles had so developed as to hide the true condition, unless the face muscles were put into special action. She passed the menopause without any difficulty. There was never the least suspicion of any luetic disease. She always led a very active life and the cardiac lesion gave her practically no trouble.

The history of the present illness was as follows: One afternoon in June, 1920, she was walking along the floor of a well-known business establishment when she suddenly felt giddy and fell down on the floor, just as though she had been shot. She was perfectly conscious, knew where she was, was able to give directions for being taken home, could move all her limbs, but suffered from intense vertigo. She was absolutely unable to stand or even sit up and was only comfortable when lying flat on her back with her eyes closed.

She was taken home in an ambulance and I saw her an hour after the attack. She was perfectly conscious, knew me at once and complained of intense giddiness. She was able to move all her extremities; she kept her eyes tightly closed, as the vertigo was then not so pronounced. With assistance I managed to get her to sit up in bed, when she

suddenly fell over to her left and hit her head a terrific blow against a wall by the left side of her bed. I have never seen any fall exactly like it before. It was as though some unseen force had propelled her violently to the left.

On physical examination I found that her organs were healthy, except for a pre-systolic and systolic mitral murmur, audible about the left nipple. There was no thrill palpable and the heart showed no enlargement, either transversely or perpendicularly and appeared exactly the same as it had done for years past. The urine had a low specific gravity of 1.014; a faint ring of albumin was obtained with Boston's solution. There was no sugar.

The neurological findings were as follows: The mind was quite clear, memory good for past and recent events. The patient was absolutely unable to stand or even sit up in bed. She could see quite as well as before the attack; but there was a very marked nystagmus, with the jerkings going to the left. There was no paralysis of the ocular muscles and the pupils were of normal size, reacting both to light and accommodation. There was at no time any optic neuritis.

There was no loss of sensation over her face or head, but the left side of her face showed the old facial palsy very distinctly, although her *orbicularis oris* had not been affected. Her hearing was normal and equally acute on both sides. There were no noises in the ears. The tongue came out in the middle line and both taste and smell were normal. She could move her arms and legs and apparently knew their position in space, but was quite unable to touch her nose with the left index finger when her eyes were closed, going several inches wide. The right hand acted normally. On pronating and supinating her right hand and asking her to do the same with the left, she was quite unable to follow, the movements showing very markedly adiodococinesia. She could not touch her right big toe with her left heel, but could quite easily follow out this with the right heel. There was nowhere any sign of loss of sensation, either epicritic, protopathic or deep muscular sense. There was nothing peculiar about the reflexes; the knee-jerks were occasionally more pronounced on one side than the other, but they varied from time to time on the two sides. The Achilles jerks were both present and both great toes gave flexor responses and Oppenheim's and Chaddock's reflexes were normal. The sphincters were under normal control, except on one or two occasions after purgative medicine, when the rectal sphincter debased itself.

The patient was quite unable to do anything for herself, owing to the intense vertigo, made worse by movements, and she had to be fed for several weeks. She had, every now and then, vomiting attacks and was confined to her bed from two to three months. She slept very badly all through her illness. Her mind was active and perfectly normal and she was quite capable of transacting her business affairs and made her will, but was quite unable to sit up to sign it. She gradually began to improve, but when out of bed required constant watching. One day the nurse, having left her sitting in a chair, heard a thud and on returning to the room found the patient flat on the floor. One day I got her to stand up and she suddenly fell like a person in a fit on the floor, giving her head a terrific blow.

After a few weeks she gradually began to walk with the assistance of two nurses, but she always tended to fall, especially to the left, and during her stay in hospital she had some terrible falls and both astasia and abasia were very marked.

After three months in hospital she was able to go home, but was quite unable to move alone from where she was placed without assistance. Later on she was able to walk round a table whilst holding on to it. She then went to a home in the hills, where she gradually began to walk about with the aid of a walking stick.

She came in to see me last week. She was able to walk without her stick, but always had it with her. She was not perfectly steady in her gait, but could progress quite well with a tendency to go to the left. She was now able to touch her nose with her left index finger with her eyes shut. The nystagmus had gone and all the neurological findings were normal. The prolonged rest had done her heart an enormous amount of good. Her urine was free from albumin. Her mental condition was quite natural and she was in an extremely happy frame of mind, but would not trust herself to go about without a nurse in attendance.

<sup>1</sup> Read at a Meeting of the South Australian Branch of the British Medical Association on February 24, 1921.

My diagnosis was that there had been an embolism of the left cerebellar arteries. I could not say if it were the superior or inferior which was closed and I know of no neurological signs which would enable you to differentiate between the two. At the time I was more inclined to think it was the superior cerebellar, which comes off from the basilar near its termination, than the inferior, which you all know comes off the vertebral, but takes a more winding course.

I presumed it must have been an embolism from the cardiac lesion and the suddenness of its onset; a thrombosis would have come on more slowly. It might have been a hemorrhage; but this is unlikely, from their being no loss of consciousness, and hemorrhage of the cerebellar arteries is very rare.

It must have been the left cerebellar vessels, as it was the left side which showed the most marked inco-ordination and the nystagmic jerkings were to the left. The left cerebellar hemisphere controls the co-ordination of the left side of the body, but is connected with the right cerebral hemisphere.

Fortunately, owing to the anastomosis of all the cerebellar vessels, the patient has been enabled to make a fairly good recovery, but it has taken a very long time and the illness was of a most distressing nature.

There are one or two points with regard to the diagnosis which are worth considering. The condition might have been caused by Menière's disease or a Menière syndrome, but there were never any ear symptoms at all; the hearing was always perfect and there were none of those disturbing noises patients suffering from either of those affections complain of so bitterly.

There was no suspicion of its being due to a tumour or inflammatory trouble from the suddenness of its onset, the very slight headache, the absence of projection vomiting and the normal condition of the optic discs all through the illness. I made the diagnosis of embolism of one or both left cerebellar arteries at the beginning of the illness and I have not been able to satisfy myself that any other diagnosis would account for the symptoms. The way in which the condition is clearing up is strongly in favour of a vascular catastrophe, as the cerebellar vessels so intimately anastomose with one another.

## Reviews.

### THE MANAGEMENT OF INFANTS IN HEALTH AND SICKNESS.

Dr. C. Bruton Sweet has published a series of lectures delivered by him to the nurses of St. Mary's Home for Infants, Auckland, New Zealand.

This book<sup>1</sup> is opportune in its arrival when such widespread interest in being taken in infant welfare work, and it is one that all young practitioners will find invaluable, since it deals in a detailed manner with infant feeding and thoroughly covers the ground of breast and bottle feeding in a way not to be found in the ordinary text books of diseases of children.

Dr. Sweet very rightly lays the blame of much of the unnecessary bottle feeding of infants on the shoulders of the incompletely trained midwife. He says that breast-fed children nearly always follow in the wake of the midwife who understands her infant patient as well as the mother. The nurse should appreciate the fact that it is the demand that creates the supply in the case of breast milk and that substituting bottles of milk in place of feedings at the breast is lessening the demand, with the inevitable result that the supply diminishes. The subject of supplementary, in place of substitute feeding is well handled and the author's views should be widely read. His remarks with regard to the difficulty of an analysis of breast milk are good. The only reliable analysis is that made by the infant who is being fed on proper lines.

Dr. Sweet gives sound directions in reference to increasing the mother's supply of milk and expresses his disappointment with regard to the results following the use of the so-called lactagogues.

<sup>1</sup> The Management of Infants in Health and Sickness, by G. Bruton Sweet, M.B., Ch.M.; 1920. Auckland: Whitcombe & Tombs, Limited; Demy 8vo., pp. 100. Price, 3s. 6d.,

The subject of bottle feeding is carefully discussed and simple dilution of cow's milk with no weaker dilution than half and half with water is the author's choice and he insists on feeding at intervals of three hours.

Humanized milk, so much talked about in relation to the low infantile death rate in New Zealand, is thoroughly considered by Dr. Sweet. He shows that its introduction in infant feeding resulted from an erroneous belief that infants could not properly digest the protein of cow's milk. This belief has now been abandoned and the reason for the use of humanized milk has ceased to exist. It is a clumsy, unnecessary and (in summer) a distinctly dangerous method of handling cow's milk for infant feeding and should be avoided.

Artificial foods, condensed and dried milks, are all fully considered and rational views are expressed as to their value and disadvantages.

The growth and development of the infant are well handled in the opening chapter of the book and the physiology of digestion is explained in a manner easily understood by nurses and mothers. In reference to circumcision, Dr. Sweet holds that to subject all male infants to this operation is a procedure without sound reason, except in the case of infants with a pin-hole opening in the meatus. His advice to nurses to retract the prepuce daily is one that hardly appeals to the general profession. In the hands of the ignorant it is apt to lead to cases of paraphimosis and the number of cases of balanitis seen amongst infants is hardly sufficient to justify this procedure.

The value of fresh air for the infant, both in sickness and in health, is properly emphasized throughout these lectures and the advice to put the infant suffering from croup near an open window to the exclusion of other forms of treatment will meet with opposition from the grandmothers until they try it.

Dr. Sweet advocates sterilization of milk throughout his book and in dealing with scurvy does not emphasize the value of raw milk in treating children with this disease. The use of the hot bath in the treatment of convulsions, no matter what the temperature of the infant, is properly condemned and the cold bath for patients with high temperature is advised.

The book is one that should be adopted as a text book in all nursing schools and it may be safely recommended to mothers who frequently ask for a book which will aid them in the rearing of their infants.

### ABRIDGED ANATOMY.

The eighth edition of "The Pocket Anatomy," by C. H. Fagge,<sup>1</sup> is modelled very much on the plan of the previous editions. The B.N.A., which were incorporated in the seventh edition, have been replaced by the old nomenclature. Hence the work is chiefly of value to students and medical men using the latter. Further, its scope is limited to a synoptic description of the 'soft parts' and joints, osteology being omitted. The book is undoubtedly useful for rapid revision, more especially of topographical relations of various important structures, such as the great vessels in the neck, the anterior, posterior, internal and external relations being arranged in separate parallel tables.

Marked accuracy is another feature, as far as can be judged from a careful perusal. A curious error has, however, crept into this edition. While the heart, pericardium and arteries are described under the heading "The Vascular System," the veins are treated under a separate heading. There is a marked improvement in the printing of this edition. A further improvement is made by the introduction of italics to emphasize either the more important descriptive terms or important features which are apt to be overlooked; their use has on the whole been most happy. As in nearly all books of this type, lack of illustrations is a decided failing which seriously detracts from its value. The space devoted to the lymphatic system is inadequate, even for purposes of revision. There is, for instance, not even a synopsis of the lymphatic drainage of such important organs as the breast or tongue, etc. Again, the pituitary

<sup>1</sup> The Pocket Anatomy, by C. H. Fagge, M.B., M.S., F.R.C.S.; Eighth Edition, 1920. London: Baillière, Tindall & Cox; Fooksap 8vo., pp. 313. Price, 5s. net.



body is dismissed in two and a half lines, while Cowper's gland has a special paragraph of six lines devoted to its description. The book itself, as its name implies, is in a moderately portable size and is thinner than the earlier edition, in spite of an increase in the number of pages.

#### EXHIBITION IN GYNÆCOLOGY AND OBSTETRICS AT THE UNIVERSITY OF DUBLIN.

The Registrar of the University of Melbourne has asked us to state that applications are invited from medical graduates for appointment to the Exhibition in Gynæcology and Obstetrics which is available to a graduate of the University of Melbourne at Trinity College, Dublin. The value of the exhibition is £100 and it is tenable for one year, with free residence at Trinity College for six months. The exhibitor is eligible for election to the staff of the Rotunda Hospital.

Applications should be lodged with the Registrar of the University of Melbourne by Thursday, June 30, 1921.

### Naval and Military.

#### APPOINTMENTS.

The following appointments, etc., have appeared in the *Commonwealth Gazette*, Nos. 45, of May 19, and 47, of May 26, 1921:

##### First Military District.

##### Australian Army Medical Corps—

To be Captain.—Clifton Eric Tucker, 23rd March, 1921.

##### Reserve of Officers—

Major S. H. Seccombe is transferred from the Reserve of Officers, 3rd Military District, 5th May, 1921.

The temporary rank of Major granted to Honorary Captains F. Howson and L. M. Pigott is terminated, 31st March, 1921.

The Honorary rank of Major granted to Captain E. D. Ahern and Honorary Captain R. Kellas is terminated, 31st March, 1921.

##### Second Military District.

##### Australian Army Medical Corps—

Captain (provisional) J. H. Paul is transferred to the Australian Army Medical Corps Reserve and to be Honorary Captain, 30th March, 1921.

The notification respecting the transfer of Major R. Fowler, O.B.E., from the Australian Army Medical Corps, 3rd Military District, which appeared in Executive Minute No. 23, 1921, promulgated in *Commonwealth of Australia Gazette*, No. 6, dated 13th January, 1921, is cancelled.

##### Third Military District.

##### Australian Army Medical Corps Reserve—

Leslie Stuart Kidd to be Captain, 26th February, 1921.

##### Fifth Military District.

##### Reserve of Officers—

The temporary rank of Lieutenant-Colonel granted to Honorary Captain A. Juett is terminated, 31st March, 1921.

The temporary rank of Major granted to Honorary Captains H. B. Gill and I. George is terminated from 1st April, 1921, and 3rd April, 1921, respectively.

##### Australian Imperial Force.

##### APPOINTMENTS TERMINATED.

##### Fourth Military District.

Captains L. W. Linn, 26th December, 1919, and W. K. Collins, 2nd June, 1920.

We regret to announce the death in Melbourne on May 27, 1921, of Dr. Victor Joseph Emanuel Zichy-Woinarski at the age of 66 years.

### THE HEALTH OF AUSTRALIA.

#### Infective Diseases Notified in Australia During the Year 1920.

|                                 | New South Wales.   |         | Victoria. |         | Queensland. |         | South Australia. |         | Western Australia. |         | Tasmania. |         | Commonwealth.       |                    |
|---------------------------------|--------------------|---------|-----------|---------|-------------|---------|------------------|---------|--------------------|---------|-----------|---------|---------------------|--------------------|
|                                 | Cases.             | Deaths. | Cases.    | Deaths. | Cases.      | Deaths. | Cases.           | Deaths. | Cases.             | Deaths. | Cases.    | Deaths. | Cases. <sup>1</sup> | Deaths.            |
| Enteric Fever .. ..             | 1,042              | 126 ..  | 425       | 53 ..   | 729         | 72 ..   | 178              | 17 ..   | 383                | 28 ..   | 238       | 16 ..   | 2,995               | 312                |
| Scarlatina .. ..                | 917                | 20 ..   | 2,129     | 37 ..   | 438         | 6 ..    | 1,140            | 23 ..   | 513                | 4 ..    | 63        | 0 ..    | 5,200               | 90                 |
| Diphtheria .. ..                | 5,161              | 242 ..  | 6,037     | 274 ..  | 3,393       | 126 ..  | 1,530            | 86 ..   | 1,163              | 45 ..   | 899       | 32 ..   | 18,183              | 805                |
| Pul. Tuberculosis ..            | 1,506 <sup>2</sup> | 1089 .. | 883       | 963 ..  | 421         | 343 ..  | 553              | 321 ..  | 462                | 256 ..  | 205       | 106 ..  | —                   | 3,078 <sup>3</sup> |
| C'bro-Sp'l Meningitis           | 32                 | 29 ..   | 12        | 13 ..   | 41          | 30 ..   | 6                | 8 ..    | 6                  | 2 ..    | 3         | 0 ..    | 100                 | 82                 |
| Poliomyelitis .. ..             | 45                 | 4 ..    | 4         | 0 ..    | 30          | 4 ..    | —                | 3 ..    | 8                  | 1 ..    | 1         | 0 ..    | —                   | 12                 |
| Malaria .. ..                   | 0                  | 2 ..    | 5         | 1 ..    | 14          | 10 ..   | 2                | 0 ..    | 66                 | 3 ..    | 8         | 0 ..    | 95                  | 17 <sup>4</sup>    |
| Puerperal Fever ..              | —                  | 1 ..    | 49        | 2 ..    | 28          | 4 ..    | 22               | 2 ..    | 4                  | 1 ..    | 9         | 0 ..    | —                   | 10                 |
| Septicæmia, Sapræmia, Pyæmia .. | —                  | 54 ..   | —         | 29 ..   | —           | 24 ..   | —                | 10 ..   | 28                 | 12 ..   | —         | 9 ..    | —                   | 138 <sup>5</sup>   |
| Bilharziosis <sup>6</sup> .. .. | —                  | 0 ..    | —         | 1 ..    | 13          | 0 ..    | 0                | 0 ..    | 3                  | 0 ..    | 1         | 0 ..    | —                   | 1                  |
| Morbili .. ..                   | —                  | 171 ..  | 0         | 212 ..  | —           | 54 ..   | 3,808            | 13 ..   | —                  | 16 ..   | —         | 4 ..    | —                   | 470                |
| Pertussis .. ..                 | —                  | 293 ..  | 0         | 174 ..  | —           | 45 ..   | 1,731            | 39 ..   | —                  | 4 ..    | —         | 5 ..    | —                   | 556                |
| Ophthal. Neonatorum             | —                  | 4 ..    | 0         | 1 ..    | —           | 0 ..    | —                | 1 ..    | 10                 | 0 ..    | 8         | 0 ..    | —                   | 6                  |
| Anchylostomiasis ..             | —                  | 0 ..    | —         | 0 ..    | 15          | 1 ..    | —                | 0 ..    | —                  | 0 ..    | —         | 0 ..    | —                   | 1                  |
| Beri-Beri .. ..                 | —                  | 2 ..    | —         | 0 ..    | —           | 4 ..    | —                | 0 ..    | 61                 | 9 ..    | —         | 0 ..    | —                   | 15                 |
| Low or Continued Fever .. ..    | —                  | 0 ..    | —         | — ..    | 7           | — ..    | —                | — ..    | 42                 | — ..    | —         | — ..    | —                   | —                  |
| Pneumonia .. ..                 | —                  | — ..    | —         | — ..    | 139         | — ..    | —                | — ..    | 119                | — ..    | —         | — ..    | —                   | —                  |
| Influenza .. ..                 | —                  | — ..    | —         | — ..    | 967         | — ..    | 126              | — ..    | 177                | — ..    | 7         | — ..    | —                   | —                  |
| Dengue .. ..                    | —                  | — ..    | —         | — ..    | —           | — ..    | —                | — ..    | 41                 | — ..    | —         | — ..    | —                   | —                  |
| Paratyphoid Fever..             | —                  | — ..    | —         | — ..    | 3           | — ..    | —                | — ..    | —                  | — ..    | —         | — ..    | —                   | —                  |
| Encephal. Lethargica            | —                  | — ..    | 2         | — ..    | —           | — ..    | —                | — ..    | —                  | — ..    | 1         | — ..    | —                   | —                  |
| Erysipelas .. ..                | —                  | 10 ..   | 0         | 7 ..    | 139         | — ..    | 68               | 3 ..    | 37                 | 1 ..    | —         | — ..    | —                   | 10                 |
| Dysentery .. ..                 | —                  | — ..    | —         | — ..    | 2           | — ..    | —                | — ..    | —                  | — ..    | —         | — ..    | —                   | —                  |
| Malta Fever .. ..               | —                  | — ..    | —         | — ..    | —           | — ..    | —                | — ..    | 1                  | — ..    | —         | — ..    | —                   | —                  |

<sup>1</sup> The total number of cases is not given of those diseases which are not notifiable in all the States.

<sup>2</sup> Notifiable only in portion of the State.

<sup>3</sup> Including eleven deaths in Northern Territory.

<sup>4</sup> Including one death in Northern Territory.

<sup>5</sup> Including two deaths in Northern Territory.

<sup>6</sup> Including hæmaturia.

## The Medical Journal of Australia.

SATURDAY, JUNE 18, 1921.

### An Economic Problem.

On another page of this issue will be found a table compiled from the returns for the year 1920 of the health departments in each State of the notifications of infective diseases. The figures represent the nearest obtainable approximation to the actual incidence of the several diseases. Some medical practitioners fail in their duty to notify every case, while through error in diagnosis, many infections, no doubt, escape recognition. Nevertheless considerable importance can be attached to these returns, for it will be seen that the annual variations correspond closely to the known epidemic outbreaks in the more populous centres. In accordance with our practice we have appended to the records of the notifications the numbers of deaths as supplied to us by the Commonwealth Statistician. The tables as they stand year by year must be regarded as rough indicators of the efficiency of the organization and administration of the State health departments. The story they reveal is not a creditable one. We have pointed out times without number that the amount of preventable disease that occurs unchecked, is alarmingly great and that the number of deaths that should not occur, is terrifying. Humanity demands that a more earnest effort should be made to reduce this arrant waste. The occurrence of infective disease concerns every member of the community and the sooner it is realized that the health departments have a large measure of responsibility to the community and that a reduction of the incidence of infective disease is the index of efficiency, the sooner will this wastage be brought under control. The problem of prevention of disease is actually an economical one. Every infection in an individual means a dislocation of energy, a loss of productive effort, a pecuniary loss and a temporary or permanent drain on the resources of a relatively small community. The politician and the statesman have to consider whether the annual bill for doctoring, nursing and burying, in connexion with these

preventable diseases, added to the losses incurred by the temporary interruption of the productive labour of the patient and of those in attendance on him, is justifiable when the expenditure of much smaller sums would result in the elimination of the diseases—the cause of this economic waste. A few figures will illustrate the real meaning of this perennial waste. Enteric fever disappears when means are adopted to prevent the infected excrement of patients from being a source of further infection. Water-borne sewerage, well protected water supply, immediate and energetic measures to combat small outbreaks by tracing the “previous case” and keeping the “carrier” under control, are the principal means of ridding an urban or rural community of this disease. This has been achieved with something approaching complete success in metropolitan cities like London. In Australia no less than 2,995 are known to have suffered from enteric fever in 1920. This is equivalent to an incidence rate of 0.6‰. The safe disposal of excrement is not an easy task in isolated country districts, but it can and must be done. A glance at the table shows that the worse conditions obtain in Queensland, Western Australia and Tasmania, States in which the rural population is relatively large. The incidence is high in Victoria (0.29‰), although this is the lowest figure in the Commonwealth. The authorities in New South Wales and in South Australia have a bad record. The incidence is showing no signs of improvement. The average for the past five years is approximately 10% lower than the figure for 1920. In no State does the curve of incidence tend to take a downward direction. Similarly the number of deaths from this disease is increasing.

Diphtheria is another eminently preventable disease. The same amazing story can be gleaned from the figures. In the year 1920 no less than 18,183 casualties were recorded and the fatalities numbered 805, a case mortality of 4.4%. Comparison with the figures of previous years compels the recognition of missed opportunity and irresponsible failure. Everywhere there is the same upward tendency; the best is bad and the worst is appalling. The case incidence in 1920 was 3.6‰, while the average for the past four years was about 3.2‰. The case incidence in 1920 in Queensland was 4.8‰, while in New South

Wales it was 2.6%, the lowest figure in the six States. It is obvious that effective measures are nowhere applied and consequently the variations are due to extraneous circumstances and to that curious complex spoken of as chance. We can but do not attack and vanquish the cause.

The system of notification of cases and of the certification of deaths apparently breaks down in the instance of puerperal fever. Information gleaned from other sources discloses many more deaths during the year 1920 than ten, the official figure for the Commonwealth. Over 100 cases were notified in five States having an aggregate population of about three millions. Perhaps the truth concerning this infection or group of infections may be forthcoming when proper registration and supervision of midwives are introduced in the several States. The information concerning pulmonary tuberculosis is more complex. Unfortunately the incidence is not recorded for all parts of New South Wales. It is therefore necessary to recognize that the incidence numbers are too low. They may, however, be used for comparison. In 1920 over 4,000 fresh cases were notified in the Commonwealth. The average number of notifications during the previous four years was slightly higher. In 1920 the number of persons who died of pulmonary tuberculosis, was 3,078, while the toll in the years immediately preceding 1920 was a little greater. But the curves of incidence and mortality in the Commonwealth and in the several States all follow an irregular course. A tendency downwards does not exist in any of the fourteen curves. In some cases the amplitude of the variations is small, while in others it is considerable. It must be remembered that the disease is a chronic one and that there is much difference in the virulence of infections. Many of the factors are but imperfectly understood and consequently the prevention of this scourge is fraught with difficulties. Ingenuity, enterprise and co-ordinated effort are needed to bring it under control.

The indictment contained in the table is a severe one. If the authorities are incapable of shouldering the responsibility and of rendering a satisfactory account of the trust imposed in them by the community, they should make room for others, less trammelled by departmental shackles and more determined

to break down the obstacles standing in the way of success.

#### THE ACUTE PSYCHOSES OF HEART DISEASE.

Every physical illness is associated with some mental change, however slight. This change is frequently unnoticed by the attendant physician when he has had no acquaintance with his patient prior to illness. It is more obvious to his relatives. Frequently the alteration is from cheerfulness to depression or irritability; occasionally it is from mild depression to great exaltation. Everyone is cognisant of the delirium of patients suffering from typhoid fever, pneumonia and other acute illnesses. Distressing as they are to the observer, they are, perhaps, a kindly ministration of Nature to the patient. As a general rule, the more ill a man becomes, the more blunted become his mental faculties. He fails more and more to see himself in true perspective. The *spes phthisica* is a happy mental change by virtue of which the tuberculous patient becomes oblivious of the terrors of death. Uremia, that frequent last scene of the drama of life, covers the vision of the victim before the sacrifice. Old age is not free. Just as the body becomes old and withered, so the intelligence becomes clouded and the imagination dulled. Beneficent Nature lets us down gently into the grave. Occasionally it happens that immediately before death from certain diseases the patient's faculties are sharpened and he becomes painfully conscious of his impending end. This has been known to occur in *angina pectoris* and it was not an uncommon experience during the recent influenza epidemic.

In a paper on the acute psychoses which arise during the course of heart disease, Professor David Riesman<sup>1</sup> complains that the majority of text-books are silent on this subject, while others give it but passing mention. Yet the mental changes of the patient are only too well known to his relatives and to his attendant nurse. The physician who sees him for a few minutes only each day, frequently fails to detect any serious alteration in the *psyche* of the patient and often for the reason that the patient is on his best behaviour when the doctor arrives. A patient has been known to speak reasonably and with courtesy to the physician and when the sound of the latter's car has died away to turn suddenly and abuse his nurse and charge his wife and family with persecution.

Professor Riesman has collected a list of psychoses from which patients with heart disease may suffer. Hallucinations of sight and sound are common in aortic regurgitation, as was pointed out many years ago by Dr. Head and Sir Clifford Allbutt. The patient may see the figure of a man or a woman at the foot of the bed or believe he hears a carriage and pair being driven across his room. Frequently he recognizes the hallucinatory character of these impressions and unless he wins the confidence of his doctor is careful to keep his suspicions to himself. In cases of auricular fibrillation and particularly when the patient is sleepless and uncom-

<sup>1</sup> American Journal of the Medical Sciences, February, 1921.



fortable, a state of confusion is not uncommon. Momentarily the patient fails to recognize his surroundings or the identity of those in attendance on him. In other cases of myocardial degeneration there is excitation and disorientation. The patient stares wildly about him, shouts excitedly and tries to escape from bed. Old people with senile myocarditis frequently manifest this psychosis prior to the end. Acute mania coming on suddenly is the most startling of all these mental disturbances. The elder Da Costa pointed out many years ago that it was a common complication of acute pericarditis and other writers have described it in cases of advanced myocarditis. Dr. Riesman tells the story of a physician of fifty years who, while vigorously cranking a motor car, was suddenly stricken with collapse and shortness of breath. He was found to be suffering from a completely disordered action of the heart, with dilated heart and tender, engorged liver. Under rest and digitalis the auricular fibrillation improved and for a few months he was able to practise his profession again. Suddenly, about one year after the onset of his illness, he began one day to race around his library table, gesticulating wildly and exclaiming much in the same manner as Richard the Third on the night prior to the overthrow of his army by Richmond: "I am a thief; no, I am not. You are a thief; no, you are not. I am a liar; no, I am not. You are a liar; no, you are not." He maintained his journey round the table for six hours and repeated the words an indefinite number of times as fast as he could speak. Under treatment with large doses of morphine this extraordinary mental excitement subsided, but for a week the patient talked incessantly and incoherently, showing great physical and mental agitation. Within a fortnight of the onset of this strange mania he was dead.

Delusions of persecution are not uncommon in cases of aortic disease, whether aortic regurgitation or that comparatively rare clinical condition aortic stenosis. During attacks of Cheyne-Stokes breathing a frequent concomitant of advanced renal and cardiac disease, it sometimes happens that during the period of dyspnoea a state of delirium or mental excitement arises which disappears during the period of apnoea.

The causes of these psychical disturbances are unknown. Professor Riesman makes several conjectures all of which, in view of our present inadequate knowledge, are unsatisfactory. Undoubtedly uræmia is an associated cause of some of the so-called cardiac psychoses. Mania, melancholia and delusional states are common enough in uræmia, though again we are far from an adequate explanation of this condition. It is suggested that in certain cases, when uræmia can be excluded as a cause, an acidæmia may be the cerebral excitant. Professor Riesman calls attention to an observation he has made that when the cardiovascular mechanism begins to fail, the urine becomes intensely acid and a heavy precipitate of urates is formed. The question of acidosis must, however, remain in abeyance till the hydrogen ion concentration and the presence of acid bodies in the blood in these cases have been investigated. Digitalis and alcohol have been blamed for several of the psychoses, but definite proof is lacking. The whole subject is

of great interest and it opens up a very enticing field for the investigator. Meanwhile a more intimate clinical study of the cardiac psychoses would more than repay the trouble.

#### THE TREATMENT OF BILHARZIOSIS.

Dr. Walter Summons, O.B.E., has sent us the following letter for publication from Dr. J. B. Christopherson. It contains matter of interest on the treatment of bilharziosis. The letter is written from London and is dated March 1, 1921:

Dear Sir: My many thanks for sending me *The Medical Journal of Australia* containing your article on the treatment of Egyptian bilharziosis, and I especially thank you for your kind reference to me in the opening paragraph. The cystoscopic examinations, too, are very interesting.

Contrary to my original statement, I think now that the worms are killed after the ova, so that it may not be sufficient to note the disappearance or the blackening (sterilization) of the ova, to conclude the worms are dead. This is where judgement and experience come in in the administration of antimony tartrate. I think some strains of worms are more resisting than others. Some worms live five years and others 20 or even 30, so that one would not expect the same dose to be lethal for all.

Again, the ova stop appearing in the urine in large quantities, because when the antimony tartrate reaches them, it kills them and they henceforth become merely foreign bodies. Before they were automobile.

Leiper thinks that the two large head glands, whose ducts open at or near the anterior end of the primitive gut, are secretory glands and they secrete a digestive fluid. Now we know the bilharzia shell is permeable. This secretion passes through the shell and a way is dissolved or digested through the tissues which intervene between the place where the ovum is deposited and the lumen of the bladder.

The ovum pricks its way, however, through the blood vessel wall wherein the worm has deposited it.

After this the ovum travels blunt end on towards the lumen of the bladder. You will generally find the head end of the *Myracidium* at the blunt end of the ovum (unless the ovum is about to hatch when the *Myracidium* turns round). This accounts for the ova disappearing from the urine during treatment.

It is therefore necessary to watch the urine until one can be sure that all ova coming away are sterile. After a while they are not easily found but they do ulcerate through at intervals, even after they have apparently stopped being found in the urine.

Equally good results have been obtained in South Africa as you have obtained, and I enclose a copy of a letter from the Minister of Health, Union of South Africa. I also enclose a reprint of the report of 1,000 cases treated at the Church Missionary Society Hospital in Cairo by Drs. Lasbury and Coleman—their first 1,000 after adopting the treatment (*British Medical Journal*, February 26, 1921).

Please see English *Lancet* for editorial, also for account of 1,000 cases at the Kosr-el-Aini Hospital, Cairo, by Professor Day.

An article also appears by me in the same issue on the injection of antimony tartrate generally.

The only difficulty encountered in the treatment in Egypt is the liability of the "jellah" to break off treatment when he thinks he is cured—generally after the urine has cleared and he is free from pain. This, of course, is generally too early. The only way to obviate this is in my opinion to have mobile out-patient laboratory and clinic and take the villages in order, so that the patients, if they do not continue treatment, may be found. Will you show this letter to the Editor of *The Medical Journal of Australia*, as he kindly sent me the *Journal* on a former occasion.

Yours, etc.,

J. B. CHRISTOPHERSON.

## Abstracts from Current Medical Literature.

### PATHOLOGY.

#### (225) Leucocytic Response of the Guinea Pig in Experimental Tuberculosis.

Raymond G. Hussey has studied blood counts of guinea-pigs rendered relatively immune against infection with virulent tubercle bacilli by preliminary inoculation with a suitable quantity of avirulent tubercle bacilli (*Journal of Experimental Medicine*, March 1, 1921). He points out that other investigators have found that in generalized miliary tuberculosis and in tuberculous meningitis in which resistance is lowest since recovery is always improbable, there is a noted deficiency in lymphoid activity as determined by estimations of circulating lymphocytes. In progressive pulmonary tuberculosis this is also the case. On the other hand, in individuals showing an ability to control the disease there is an increase in the circulating lymphocytes. It is usually asserted in text books that the leucocytic pictures in general miliary tuberculosis, typhoid fever and influenza are similar. However, careful analysis of reports on studies of these infections leads to quite a different conclusion. A summary of the tables in Warthin's paper on general miliary tuberculosis and Thayer's paper on studies in typhoid fever is as follows: General miliary tuberculosis—total leucocyte count 4,128, polymorphonuclear leucocytes 91.5%, mononuclear leucocytes 8.3%. Typhoid fever—total leucocyte count 5,286, polymorphonuclear leucocytes 61.7%, mononuclear leucocytes 37.6%. Further, during the recent epidemic of influenza some observers, noted the mononuclear elements to be especially affected, while others emphasize particularly the polymorphonuclear elements. The former made their observations during the first five days of illness, the latter at a later period of the illness. In view of the now generally recognized facts that true influenza is of only short duration (1 to 5 days) and that one deals principally with complications in an illness which continues beyond that period, it is suggested that the observations made during the earlier period should be of greater significance. In the author's experiments there was associated with the immune reaction a definite general leucocytic response characterized by an absolute increase in the total count with an absolute and relative increase in the lymphocytes. Moreover, blood counts made on animals inoculated with avirulent tubercle bacilli alone show an increase in the circulating lymphocytes during the period of greatest reaction to the infection, while blood counts on guinea-pigs inoculated with virulent bacilli alone, show an erratic course in which the polymorphonuclear forms are much increased, though not regularly so. These results indicate a parallelism between lymphoid activ-

ity and resistance of the animals to tuberculous infection and suggest an association of lymphocytes with the factors determining this resistance.

#### (226) Mononuclear Leucocytosis in Reaction to Acute Infections.

In the *Johns Hopkins Hospital Bulletin*, November, 1920, Thomas P. Sprunt and Frank A. Evans report in detail six cases in young adults of mononuclear leucocytosis in reaction to acute infections. They say that the mononuclear leucocytosis in adults in reaction to acute infection is not a simple lymphocytosis as in children, but is made up largely of pathological forms, probably all lymphoid in origin. Among the cases in adults presenting a mononuclear leucocytosis of this type, there occurs a group with symptoms and signs so much alike that they may be considered provisionally as a clinical entity. When first met with during the febrile period, especially in the early stages, these cases cannot be differentiated with assurance from leukaemia; but the subsequent course makes the diagnosis clear. All the cases occurred in young adults, all patients had enlarged and tender cervical glands and five of the six had in addition enlarged and slightly tender glands in the axillary and inguinal regions. In four cases the spleen was palpable, but in none was it markedly enlarged. The blood picture in all the cases was the same, showing variations hardly even in minor points. For the first few days the total white blood cell count was normal or only slightly increased. Then followed a leucocytosis of from thirteen to twenty thousand cells to each cubic millimetre. The differential counts showed that the percentage of mononuclear elements was increased, especially the large lymphocytes. All types of pathological lymphocytes, some resembling Türk's imitation forms, were to be seen. The percentage of mononuclear cells in several cases at times reached 70 or even 75. Apart from the changes in the leucocytes the blood showed the usual changes of a secondary anaemia. There is nothing distinctive in the changes in the lymph glands beyond a rather definite hyperplasia of the lymphoid cells. There is no indication of Hodgkin's disease, tuberculosis or lymphosarcoma and no definite histological distinction can be made between the glands in this group and in lymphatic leukaemia, save in the degree of the hyperplasia. The differentiation from a beginning leukaemia may be difficult. In leukaemia, however, with a low general leucocyte count one is apt to find more marked anaemia, a tendency to haemorrhage and many fragile cells in the blood smears. The cells which are not fragile, are usually normal in appearance or if not normal, all of the same variety, while in the case of infectious mononucleosis there is a diversity of types. The differentiation from Hodgkin's disease presents less difficulty. The blood picture is not strongly suggestive of that affection, the lymphatic enlargement is general rather than regional and the histology

of the excised gland does not suggest this diagnosis.

#### (227) B. Welchii Toxin.

Herbert Henry and Margaret Lacey record the results of their experiments with *B. welchii* toxin in the *Journal of Pathology and Bacteriology* (June, 1920). The toxin of *B. welchii*, as obtained in filtrates from meat-broth cultures of the organism, differs from the toxin produced by *B. diphtheriae* and *B. tetani* in two important particulars, viz., instability and low potency. The ideal result in precipitating any toxin from solution is a product with the minimum of bulk and the maximum of toxicity. The greater the toxin content of the initial culture filtrate the more easily is this object attained. Most toxin-producing strains of *B. welchii*, when grown in meat broth, give at their best a toxin with a lethal dose for mice of 0.1 c.cm., so that the total amount of toxin recoverable from a litre represents no more than 10,000 minimum lethal doses for mice. Further, toxin production by *B. welchii* is associated very regularly, though not invariably, with the formation of a sticky substance which is readily precipitated along with the toxin particularly when ammonium sulphate is used as the precipitant. The ammonium sulphate precipitate, when redissolved, forms solutions that become more and more viscid as the concentration increases. On the other hand, precipitates obtained by adding one to four volumes of alcohol dissolve very readily even in high concentrations. They also give a more certain and better yield of toxin. Where, however, operations have to be conducted on a large scale, the expenditure in alcohol becomes very considerable, and it was for this reason that the authors devised a method of double precipitation, firstly, by ammonium sulphate and, secondly, by alcohol. It is possible by this method to obtain solutions containing from 50 to 250 mouse minimum lethal doses per c.cm.. The possibility of obtaining *B. welchii* toxin in a still more concentrated form would seem to depend entirely on the problem of obtaining culture filtrates of better value. Specimens of toxin obtained as above have been stored at room temperature in amber coloured bottles fitted with rubber corks and have suffered no deterioration over a period of eleven months.

#### (228) Mutation Changes in Diphtheroids.

R. R. Mellon has presented evidence that the series of changes occurring in a non-granular diphtheroid (*C. hodgkini*), beginning with granular formation and ending with the formation of giant cocci of very diverse morphology, is of greater significance biologically than is implied by the term pleomorphism (*Journ. Med. Research*, July-September, 1920). That these changes may be cyclic in nature is supported firstly by the evidence for induced changes in the reproductive mechanism of coccoids and, secondly, by the fact that when

these forms are specifically influenced at a certain period in their development, a new type of organism with quite distinctive characters results. Light is thrown on the mechanism of mutation and the author thinks it may be possible later to formulate a theory of mutation. This is of particular interest as occurring in an asexual organism. It would seem probable that our conception of bacteria in relation to disease may undergo important modifications by reason of the repudiation by general biologists of Darwin's conception of the mechanism by which evolution was actually effected.

## PÆDIATRICS.

### (229) Acute Endocarditis in Children.

Taking the cases of 250 ward patients suffering from acute endocarditis, either in a first attack or during an acute exacerbation of a chronic valvular disease, H. P. Ledford (*Amer. Journ. of Dis. of Children*, February, 1921) gives an analysis of the ætiology, symptoms, physical findings, treatment and the results of treatment. Of the 70 mild and 180 severe cases the former were more often associated with chorea, the latter with tonsillitis or rheumatic fever, the mortality ranging from 2.8% to 10% to 17%. In children endocarditis is largely due to rheumatic fever and may be the first and even the only apparent symptom of that disease. Articular manifestations may be very mild. About 40% of the patients had no symptoms pointing to cardiac involvement. The remainder showed dyspnoea (46%), præcordial pain (17.6%) or epigastric pain (12%). Palpitation was present only in 14 patients (5.6%). The average temperature was 37.7° C., that of the fatal cases 37.9° C. The cardiac transverse diameter as defined by percussion, was found to be increased above the average in all the age groups, in direct proportion to the severity of the disease. The leucocyte count was increased and depended for its increase on the severity of the infection. Age and degree of fever had apparently no influence. The mitral valve was affected in every case of the series, the aortic in 37 cases and the tricuspid in one. On discharge only two patients were without a murmur. Pericarditis occurred in 32 cases, 17 of which were fatal. The earlier in childhood the primary endocarditis appears, the better the ultimate prognosis, though the immediate prognosis is much worse. Early permanent return of temperature to the normal is a very favourable sign. Treatment consists of rest in bed. The patient should lie as nearly flat as possible, the nurse attending even to the feeding. With orthopnoea the most comfortable position had to be assumed. As the patient improved, strict rest treatment was relaxed; graduated exercises combined with much rest in bed, were given for two or three months and for one to two years exercise was limited. The patients with mild forms of the disease stayed in bed in hospital for 30 to 35 days, those with severe forms for 50

days. Salicylates were given when rheumatic symptoms were present, digitalis rarely and then only for failing compensation. Sedatives were used when needed and for the præcordial pain ice was applied over the heart. Before discharge, treatment was directed towards the removal of septic foci in teeth, tonsils, etc..

### (230) Resistance to Acute Respiratory Disease.

Taking the case records over a period of six years of children suffering from acute disorders of the respiratory tract, J. Zakorsky (*Amer. Journ. of Dis. of Children*, February, 1921) found that there was an extremely high incidence in infancy and a gradual decline till the fourth and fifth years of life, followed by a sharp rise between five and six years. This latter period corresponds to the beginning of school life and an analysis of a large number of cases at this age demonstrated that two factors are operative: (1) The extreme susceptibility of many children who have not been exposed to a variety of respiratory infections until they enter school. (2) The frequent repetition of respiratory disease in some children at this age (tonsillitis, bronchitis, etc.). The author considers that in most persons a relative immunity to respiratory infections is developed in early childhood and that the development of this resistance passes through three stages, namely, infantile resistance, puerile resistance and normal resistance. (1) Infantile resistance is characterized by several features. The infant is less able to resist the morbid agents and the disease spreads throughout the respiratory tract. Thus coryza nearly always terminates in bronchitis or broncho-pneumonia. General symptoms of fever, prostration, restlessness, anorexia and loss of weight are usually present, even when the pathogenic agent is only slightly virulent. In many cases there is adenopathy, especially marked with a virulent infective agent. Suppuration is frequent and there is a greater tendency to *otitis media* and broncho-pneumonia. Moreover, the disease lasts longer. (2) Puerile resistance is shown by an invasion of only part of the respiratory tract and by a fleeting appearance of general symptoms. The disease tends to remain localized, but the febrile reaction may still be great. The duration is short. Adenopathy, except tonsillitis, is uncommon and *otitis media* and broncho-pneumonia are less frequent. (3) Normal resistance is shown by the occurrence of only a localized reaction without fever. Coryza, pharyngitis, etc., may develop, but except for the annoying local symptoms and lassitude lasting a few days, the patient is not ill. These different stages of resistance are not definitely restricted to a set definite age period. A child may persistently show an infantile resistance through the whole period of childhood. Again, an infant may be born with a normal resistance. Or a child may show a normal resistance till he enters school, when he may manifest an infantile or

puerile resistance. An acute infectious illness (e.g., measles) may alter the resistance for months and a chronic infected focus (e.g., tonsil, tooth, etc.) often changes the type.

### (231) Lobar Pneumonia.

The prognosis of lobar pneumonia in children is better than in adults. Even when a large area of lung is involved, the disease, if uncomplicated, usually ends in complete recovery with a very short convalescence. Even when the disease is severe and there are high temperature and great prostration, the crisis is followed by rapid return to health. The tendency, however, towards certain complications, e.g., empyema, *otitis media*, arthritis, subcutaneous abscesses and other suppurative processes, is more evident in children than in adults and until convalescence is established, these complications alter the chances of recovery. If the child's nutrition is good and his surroundings favourable, Le Grand Kerr (*New York State Journal of Medicine*, November, 1920) considers the prognosis excellent, no matter how extensive the involvement. He considers that the factors which unfavourably affect prognosis, do not necessarily include the local pulmonary changes, nor does the air hunger in pneumonia denote a struggle for more oxygen. While, again, the toxic effect of the disease is undoubted, myocardial involvement rarely follows and when it is present, has no definite relationship to the area of lung affected or to the toxæmia. Two other factors which contribute to the mortality are (1) exhaustion (but only when the disease continues beyond the tenth day), (2) acute gastric dilatation. This latter complication occurred in more or less degree in 28% of all the author's cases and in 25% was a positive menace to the child's life. The condition is undoubtedly due to toxic paresis of the gastric musculature or of the motor and sympathetic nerves supplying it. It is further excited by overloading the stomach with liquids and shows itself in restlessness, increased thirst and vomiting and perhaps acute epigastric pain. Shock may occur at an early stage. Respiration is much increased with usually a considerable degree of cyanosis. The objective findings are characteristic. A visible and palpable tumour appears in the upper abdomen, not necessarily in the normal stomach area, and the tumour may be reduced by vomiting. Treatment depends on and is adapted to the immediate condition of the stomach. When much fluid is present, the foot of the bed should be elevated 30 to 45 cm. and the left antero-lateral position assumed by the patient. The next essential is efficient lavage either at intervals or continuously by the insertion of a small tube through the mouth or nares. All food or medication by the mouth must be absolutely stopped. Starvation acidosis may be combated by giving glucose and alkaline solution by the bowel. Small doses of morphine may be administered.



## British Medical Association News.

### SCIENTIFIC.

A meeting of the South Australian Branch was held in the Lister Hall, Hindmarsh Square, Adelaide, on March 31, 1921, Dr. H. S. Newland, C.B.E., D.S.O., the President, in the chair.

Dr. A. A. Lendon read a paper on "A Case of Sarcoma of the Stomach" (see page 501).

Dr. A. M. Cudmore read a paper entitled "Some Experiences of Gastric Surgery" (see page 495).

Drs. A. A. Lendon and H. S. Newland submitted a paper entitled "Extroversion of the Bladder." This paper is not available for publication.

Dr. R. Humphrey Martin opened the discussion by stating that it was his experience that when after the administration of a bismuth meal to a patient, the shadow of the meal could not be distinguished by radioscopic examination, the gastric walls were probably in a condition of marked sclerosis.

Dr. Bronte Smeaton stated that evidence obtained from recent literature on the subject was opposed to excision of ulcers involving the lesser curvature of the stomach. The majority of ulcers of the lesser curvature were cured by the operation of gastro-enterostomy.

Dr. John Corbin was of opinion that bismuth meal tests were not always satisfactory guides for the purposes of diagnosis and he described several cases from his own experience in which the X-ray diagnosis was not confirmed at operation.

Dr. H. S. Newland considered that in many instances gastro-enterostomy might be avoided if the gastric ulcer were excised. The question which had to be carefully considered, however, was what ulcers were excisable? Moreover, it was often impossible to discover without making an incision in the stomach whether an ulcer was present or not. Numerous small ulcers of the stomach could easily be overlooked. In cases of acute perforating ulcer it was doubtful whether the ulcer could be felt without opening the stomach.

A meeting of the New South Wales Branch was held at the Royal Alexandra Hospital for Children, Camperdown, on April 8, 1921, Dr. T. W. Lipscomb, the Vice-President, in the chair.

Dr. Margaret Harper and Dr. W. F. Litchfield gave a demonstration on infant feeding.

Dr. Litchfield stated that it was a difficult matter to demonstrate the fundamental principles of infant feeding. There existed much difference of opinion concerning the best food for infants. Of course, everyone recognized that breast milk was the one ideal food for infants. He proposed to discuss the methods which he advocated when artificial feeding became a necessity. Dr. Litchfield referred to the discussion on the subject which had taken place at the Australasian Medical Congress, Brisbane, 1920, at which the specialists from all the capital cities of Australia had spoken. Each one had dealt with his own method. Dr. Litchfield proceeded to elaborate what he regarded as the ideal feeding for an infant. The milk or food should contain 1.5% protein, 3.5% fat and 7% sugar. The total number of calories per litre was 704; the proportion of protein to the fats and sugar combined was 1:10; the percentage of fats to the total number of calories was 45 and the quantity of fat per litre was 37 grammes. He regarded the proportion of protein to the combined fats and sugars as the most important. Cow's milk contained 4% protein, 3.5% fat and 5% sugar. The caloric value per litre was 528 and the percentage of fats to total calories was 45. Glaxo, prepared in the proportion of 1 part to 8 parts of water yielded a mixture containing 2.7% of protein, 3.5% of fats and 5.25% of sugars. The total calories per litre was 635; the proportion of protein to combined fats and sugar was 1:4.5; the percentage of fats to total calories was 47 and the amount of fats per litre was 33.8 grammes. Lactogen had approximately the same composition. There was a trifle less fat and the fat was present in a highly emulsified condition. Sweetened condensed milk diluted with ten times its volume

of water contained 1% of protein, 1% of fat and 6% of sugar. The total calories per litre amounted to 387; the proportion of protein to combined fats and sugar was 1:8; the proportion of fats to total calories was 25% and the fat per litre amounted to 10.59 grammes. In the last place Dr. Litchfield gave the figures showing the necessary amount of sugar to be added to make up the proper proportion of calories when cow's milk was diluted with an equal volume of water. The protein represented 2%, the fat 1.75% and the sugar 11%. The total number of calories per litre was 704; the proportion of protein to combined fats and sugar was 1:8; the percentage of fats to the total number of calories was 25 and the quantity of fat per litre was 18.48 grammes. An important point to determine was the minimum amount of fat in the total calories allowable.

The quantity of breast milk taken by a baby was important. The following figures might be taken as average figures.

| Quantity per Diem. | Age of Infant.     | Number of Calories. |
|--------------------|--------------------|---------------------|
| Cm.                |                    |                     |
| 142.5              | First week         | 100                 |
| 570                | End of first month | 400                 |
| 855                | Sixth month        | 600                 |
| 997.5              | Twelfth month      | 700                 |

Dr. Litchfield stated emphatically that breast milk was the only satisfactory food for infants. On the other hand, every medical practitioner could parade babies which had thrived very well on other foods. It seemed as though breast milk led to the production of an active immunity to certain infections. The majority of babies suffering from diarrhoea were fed on artificial foods, many of which were sterile.

Dr. Margaret Harper proceeded to demonstrate a number of infants which had been fed on milk mixture, condensed milk, Glaxo or whey mixture. She was able to point out that some of these babies had done well on milk mixture after having shown symptoms when fed with other mixtures. One baby showed definite signs of rickets at the age of 15 months. This baby had been fed on Glaxo, but Dr. Harper admitted that the cause of the metabolic disturbance was probably the indoor environment. The child had not been taken out of the room.

Dr. A. W. Campbell exhibited a specimen of tumour of the cerebellum, right hemisphere. The patient had been under the care of Dr. Litchfield. The child was 12 years of age. He had suffered for from six to eight months with vomiting and headache. Optic neuritis had been detected. The diagnosis of tumour of the brain had been made and the growth had been localized in the cerebellum. The signs leading to this diagnosis were (i.) right-sided ataxia, which persisted; (ii.) the peculiar position of the head (originally described by Batten). The head faced to the left and the right ear was turned down to the corresponding shoulder. (iii.) There was nystagmus of a special kind. It appeared when the eye was turned to the right, but not when it turned to the left. On the other hand, there were two conflicting signs: facial paresis, involving the seventh nerve; anaesthesia of the opposite side, involving the fifth. These signs, however, were produced by the involvement of the pons and medulla by the growth. At the *post mortem* examination it was found that these signs had been caused by pressure. Dr. Campbell expressed the opinion that very great difficulty would have been experienced had an attempt been made to remove the tumour by operation.

Dr. R. B. Wade presented a patient with congenital elevation of the scapula or Sprengel's deformity. The boy was twelve years of age. The shoulder was raised with the whole scapula and occupied a position well above its usual height. The position of the scapula itself seemed to vary. Generally it lay nearer the middle line and the inferior angle could be rotated either in or out according to the position of the retentive band. The upper mesial end might project up from the ribs as a lump or might be curved over them to adapt itself to their curve. In most cases there could be found a band passing from the mesial border of the scapula to the transverse processes of the lower cervical vertebrae. It could be either bony or fibrous and probably it existed in all cases to a greater or less extent.

Scleriosis, torticollis and asymmetry of the face or neck were frequently associated and were due to changes in

growth, the deformity preventing free development of the neighbouring parts. Too often there were associated congenital defects, such as *spina bifida*, cervical ribs, deficiencies of the ribs and vertebrae, fused ribs and spinous processes, etc..

The disease was sometimes hereditary and that fact, together with the associated developmental changes, would go to show that it was a developmental deformity, probably a reversion to some original type. This was a better explanation than that usually given, that it was due to the mal-position of the arm *in utero*. Chlenitz had pointed out that the upper limb was a cervical appendage, retaining an elevated position during foetal life.

The patient had a large mass of bone growing from the lower cervical transverse processes on the one side and an exostosis connected with a fibrous band from the mesial border of the scapula on the other side. The treatment would be to remove the exostoses and bands and then by massage and exercise to effect some improvement.

Dr. Wade's second patient had had osteomyelitis of the neck of the femur with septic involvement of the joint. He had been treated without splinting and consequently when he came under Dr. Wade's care there was gross deformity with flexion and marked abduction. A sub-trochanteric osteotomy had been performed and the limb had been put up in over-correction. The result of the treatment was a considerable improvement in the movements of the joint and in the gait.

Dr. Wade showed a child who had suffered from spastic paraplegia and in whom he had carried out partial resection of the affected nerves. The flexors and abductors had been affected and there had been well-marked *talipes equinovarus*. As was usual in these cases of spastic paraplegia, the power of co-ordination had been lost. The patients frequently carry out the reverse movements to those intended when starting to walk. He had cut the obturators and had resected portions of the nerves supplying the soleus, gastrocnemius, etc.. The walk, although improved, was still imperfect.

Dr. Wade presented a patient suffering from so-called Perthes's disease.

*Osteo-chondritis deformans juvenilis* or Perthes's disease was, as its name implied, an inflammatory condition, chronic in course, of the epiphyseal cartilage of the head of the femur. It occurred during childhood and adolescence. It usually went by the name of Perthes's disease, though Legg had described it previously. Taylor's description of "quiet hip disease" was perhaps the best clinical description. It was more common in males, generally unilateral and occurred during the second five years of life. It was variously ascribed to changes following trauma, to changes in nutrition of the head of the femur and to changes due to some infective process. In favour of the latter theory, Dr. Wade had seen it occur in association with an acute synovitis of the knee, accompanied by high temperature. In this instance there was left an outgrowth from the epiphyseal line of the lower end of the femur. The condition had two stages when viewed from the radiographic point of view. In the early stage there was a thinning and flattening out of the thin cap of bone constituting the head of the femur. The head as well as the neck of the femur showed a general rarefaction and tendency to absorption with alteration of the angle of the neck of the femur. The areas of marked absorption with surrounding thickening which were characteristic of tubercular disease, did not occur and the joint surface remained fairly regular. Moreover, the condition was confined to the femur and there was no involvement of the acetabulum. Later, when recovery was being established, the whole neck of the femur was seen to be thickened and shortened. The most characteristic sign was that the head was much enlarged and flattened out and overlapped especially on its outer side the neck of the femur, giving an appearance best described as "mushrooming."

It was accompanied by no pain. The first sign was a limp with a lurch over toward the affected side, not unlike that which occurred in unilateral congenital hip disease. It was due to the shortening of the neck of the femur with the consequent disability of the pelvi-trochanteric muscles. There was limitation of abduction and external rotation, due to the same cause. Free movement existed

at the joint, with the exception of that of external rotation and abduction and there was none of the muscle spasm so characteristic of tuberculous disease. The tendency was for the bone condition to recover, allowing the altered conditions of *coxa vara* and flattening of the head of the femur to persist with the accompanying shortening and disability. If the hip muscles yielded owing to the altered shape of the bones, some limp resulted, due to shortening and muscular insufficiency from working under unfavourable conditions of pull. The process persisted from 6 to 18 months, but there always remained good free movement at the hip, slightly increased only in the two directions of external rotation and abduction.

The chief difficulty in the early stages was to distinguish it from tuberculous hip disease and the points in the diagnosis were the X-ray appearances as above described, the lack of muscle spasm, failure of the patient to react to the von Pirquet test and later the recovery with free movement and lack of involvement of the acetabulum, a state of affairs which could never occur with a tuberculous hip in which there was any shortening.

It could be distinguished from congenital *coxa vara* by the X-ray appearances when there was no mushrooming of the head, from rachitic *coxa vara* in the same way and by the lack of other signs of rickets and from juvenile *osteitis deformans*, which was generally polyarticular and accompanied by the formation of osteophytes from both joint surfaces.

The treatment was rest in a splint until the process of rarefaction was over and that of new bone formation had begun, when weight-bearing minimized by a Thomas's caliper splint might be allowed.

Dr. J. Sheddon Davis showed two patients for Dr. Hipsley. The first patient was suffering from Perthes's disease in an early stage. Ten months before the limb of a tree had fallen on his leg. At first he had limped, but later all signs had disappeared. The limp returned after some months with abduction of the limb. Rotation was limited, but there was no spasm. There was no response to the von Pirquet test. The second patient was suffering from tuberculous disease of the hip in an early stage. He had had an injury two and a half months before and had limped since. There was limitation of all movements, especially those of rotation. The response to the von Pirquet test was doubtful.

Dr. F. V. McAdam presented a boy for Dr. J. MacDonald Gill with encephalitis. Five weeks before the child had had signs of infantile paralysis. It had become comatose four days later with slight vomiting, twitching and fever up to 37.8° C. There were coarse tremors of the hands and fingers and distinct paresis of the right side of the face. Three weeks after the onset the patient had regained consciousness and at the time of the meeting was able to feed himself. There were still signs of the effect of the attack.

Dr. Edgar Stephens gave a bright demonstration of a child with typical "pink disease" or erythroedema. The child was 16 months old. At the age of three months it was found to be ailing. During the past four months the mother had been unable to obtain a reasonable night's rest. There were the usual signs, including intense irritability with typical skin changes. The child suffered from insomnia and considerable loss of weight. The extremities were cold and somewhat clammy; the palms, the finger-tips and the feet were red. Dr. Stephens demonstrated the characteristic appearances under considerable difficulty owing to the grizzling and whining of the child.

Dr. F. C. Rogers showed a boy aged eight years suffering from bi-lateral syphilitic synovitis of the knee joints. The child had been admitted to hospital on January 28, 1921, with a history of having been ill for one month. There was swelling of the right knee followed a week before admission by involvement of the left knee joint. The joints were tender to pressure, but the patient did not complain of any pain. There was a large amount of swelling, which was chiefly due to fluid within the joints. A positive Wassermann reaction was obtained. There was no response to the von Pirquet test, which excluded the diagnosis of tuberculous arthritis. The condition was not influenced by salicylates, but responded well to neo-kharsivan, iodide of potassium, mercury and Scott's dressings. In the differential diagnosis the localization in the knee joints suggested a syphilitic affection.

Dr. Roger's second patient was suffering from syphilitic osteitis of the tibia. On admission there was a slight limp and a complete absence of pain. The positive Wassermann reaction had led to the diagnosis.

Dr. Rogers exhibited a baby aged six months the subject of multiple deformity. There were five other children in the family, all of whom were healthy. The deformities, as

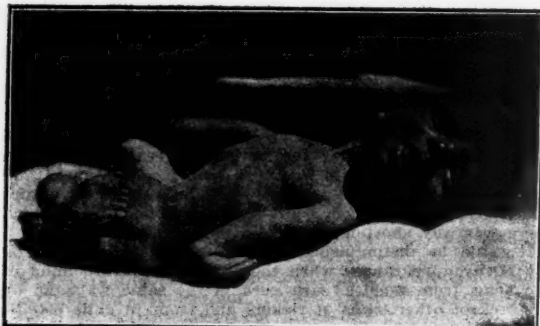


FIGURE I.

can be seen from the accompanying photograph and skiagram, consisted in the fixation of the elbow joints in extension, the fixation of the wrist joints in flexion, the fixation of the knee joint in flexion and the fixation of the feet in a position of double *talipes equino-varus*. The child had large double inguinal herniæ both of which had been dealt with by radical operation. The deformities and the herniæ were congenital. As will be seen from the skiagram, there

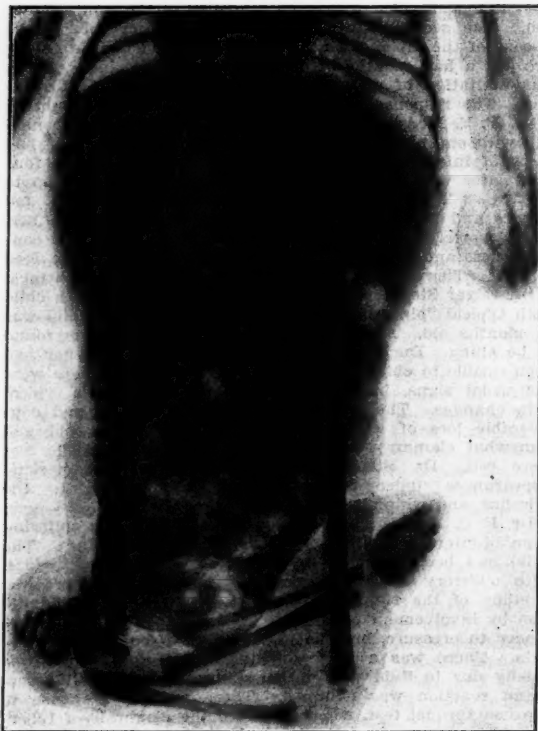


FIGURE II.

was no existing bony abnormality. The baby's mentality appeared to be normal. A Wassermann test had been applied, but no reaction was obtained.

Dr. W. F. Litchfield presented a cretin aged three years who had been treated with thyreoid extract 0.5 gm. twice a

day. The child's condition had improved considerably. He also showed two children with infantile paralysis and gave a short account of another patient who had died. The object of the demonstration was to emphasize the importance of correct treatment. According to Robert Jones, rest was the most important factor. In the next place, the paralysed muscle should be held in a position to prevent over-stretching and, in the third place, means should be taken early to prevent deformity.

#### MEDICO-POLITICAL.

A meeting of the Queensland Branch was held at the B.M.A. Room, Adelaide Street, Brisbane, on February 4, 1921, the President, Dr. A. Graham Butler, D.S.O., in the chair.

Dr. E. S. Myers moved:

That the minimum scale of fees be published in the daily press and the reasons for this step be also stated. The motion was seconded by Dr. F. G. Power. After discussion the motion was put to the meeting and was lost.

A special general meeting of the South Australian Branch was held in the Lister Hall, Hindmarsh Square, Adelaide, on February 24, 1921, Dr. H. S. Newland, C.B.E., D.S.O., the President, in the chair.

It was resolved that the subscription rates to the Branch for the year 1921 be as follows:

|  | f | s. | d. |
|--|---|----|----|
| For city members, including subscription to library                                      | 4 | 5  | 0  |
| For country members  | 3 | 15 | 0  |
| For members who have been graduates at the Adelaide University for less than three years | 3 | 3  | 0  |

It was further resolved:

That it is unethical for a medical man to have name plates attached to any house or room except at his residence or where he has regular hours of consulting, those hours to be stated on the plate.

#### Notices.

The Scientific Committee of the Victorian Branch announces the following papers to be read at meetings of the Branch in July and August, 1921:

July 6, 1921.—Mr. Victor Hurley, C.M.G., Mr. Alan Newton and Mr. W. D. G. Upjohn, O.B.E.: "Blood Transfusion; Indications for Transfusion; Testing of Donors; Preparations of Patient and Donor; Technique of Operation; After Care."

August 3, 1921.—Mr. A. Fay Maclure, O.B.E.: Paper and Demonstration at the Alfred Hospital: "On the Making and Fitting of Modern Splints and Fracture Beds, Together with a Display of Splints."

The inaugural meeting of the Section of Preventive Medicine recently formed by the Council of the Victorian Branch, will take place in the Medical Society Hall at 8.30 p.m. on Thursday, June 23, 1921. Papers will be read by Drs. J. H. L. Cumpston, E. Robertson and T. W. Sinclair on the scope of preventive medicine. All members of the Branch are cordially invited to attend.

#### Obituary.

HENRY MICHAEL O'HARA.

A prominent and distinguished Melbourne surgeon died at his home in Portsea, Victoria, on April 7, 1921, after an illness lasting ten months.

Henry Michael O'Hara was born in Cork, Ireland, and, coming as a boy to Australia, received his primary and secondary education at Geelong. He returned to Ireland in order to take up a medical career and in due course qualified as a Member of the Royal College of Surgeons of Ireland. Subsequently, a visit to Australia intervening, he attained his Fellowship of the same college.



While abroad he married Miss Nettie Klingender and returned to Australia in 1878. Two years later he commenced practice at Brighton, Victoria.

Henry Michael O'Hara was for a period of 43 years prominently identified with the Alfred Hospital, Melbourne, his association with that institution dating back to the year 1878, when he was appointed Honorary Surgeon to Out-Patients. For a short period during the following year he acted as Honorary Physician to In-Patients, but he soon relinquished this appointment to become Honorary Surgeon to In-Patients, a post he held with great distinction until June, 1913. At this date he also relinquished the office of Chairman of the Honorary Medical Staff, to which he had succeeded upon the resignation of Dr. Embling.

From June, 1913, until the onset of his last illness, Mr. O'Hara was Honorary Consulting Surgeon to the hospital with which he had been for so long associated. For very many years he was the most prominent member of the staff. He was a bold and dexterous operator and for many years his operating day was the occasion of the visit of a large number of medical practitioners. Even before the Alfred Hospital became a clinical school, his clinic was attended by many students, as well as by medical men in active practice.

Henry O'Hara was a capable and interesting teacher, with an extensive experience and a large fund of anecdote, both of which were freely drawn upon, not only in his ward work, but also in the entertaining *causerie* in the resident medical officers' room which used to follow his operating and clinical work.

He was President of the Surgical Section of the Fourth Session of the Australasian Medical Congress held in New Zealand in 1896, and on many occasions read papers and exhibited patients at meetings of the Victorian Branch of the British Medical Association. His lecture on "Life" at the inaugural meeting of the Melbourne Medical Students' Society more than 20 years ago will be remembered by many old Melbourne graduates.

Apart from his professional life, he was keenly interested in all forms of sport. In his younger days he was a champion runner and as long as he was able, he enjoyed a game of golf. He was the possessor of a delightful baritone voice and on one occasion sang the name part in the oratorio *Elijah* under the conductorship of the late Mr. Julius Herz. His excellent rendering of those ever fresh Irish songs of which "Father O'Flynn" is a type, was a constant delight to his wide circle of friends.

He was a genial and generous host and his charming dinners, followed by an evening in which his conversational and musical gifts had full scope, are among the most pleasant reminiscences of his many professional and other friends.

The late Mr. O'Hara was twice a widower and is survived by his third wife, formerly Miss Nina Osborne. The family of the first marriage consisted of one daughter and two sons, one of whom adopted the medical profession. Dr. William O'Hara served abroad in the late war and after his return practised for a time in East Melbourne. He is now in Shanghai. Henry O'Hara felt very keenly the loss of his son by his second wife, Captain Osborne O'Hara, who met his death while on active service with an Irish regiment during the late war. A son of the third marriage, Miles, saw active service as a trooper and later gained a commission. Two sons and two daughters comprise the other children of the third marriage.

The passing of Henry Michael O'Hara removes a notable figure from among the eminent surgeons of Melbourne.

It is with regret that we have to record the death of Dr. Charles Aloysius Burfitt, Assistant Micro-Biologist in the Department of Public Health of New South Wales. His death took place on June 13, 1921.

The attention of readers is directed to two advertisements of medical vacancies appearing in this issue. The Australian Hookworm Campaign is seeking applications from medical practitioners for the position of medical officer in charge of a field unit. We anticipate that there will be many applications from young men with scientific training and inclination for original research.

The Victorian Eye and Ear Hospital is seeking two resident surgeons. The opportunities offered to practitioners who have some knowledge of ophthalmology and otology and who are desirous of taking up one or other of these specialties, are very considerable.

## Correspondence.

### THE VICTORIAN MENTAL HOSPITAL SERVICE.

Sir: Every mental medical officer will, I think, agree with your correspondent ("A Victorian Medical Superintendent") in his remarks concerning superintendents' salaries.

It is certainly an anomaly that the superintendents of New South Wales should receive £200 *per annum* more than those of Victoria for doing the same class of work under similar conditions. So much for the comparative aspect of the question! But absolutely speaking, is the New South Wales salary of £900 and allowances sufficient remuneration for a professional member of the service who has devoted the best years of his life to a calling which, even in the opinion of most members of the profession, is arduous and nerve racking?

But queer anomalies exist everywhere in connexion with medical officials. These unfortunate persons, whether they be medical inspectors of schools, health officers, Government medical officers or any other kind of medical officer required to give expert decisions and advice of national importance, are never even by accident "highly paid officials." A casual glance at the list of "plums" of positions in the Federal Government service should convince any mere medical fellow that it is presumptuous of him to expect the same pay and status as officials who have not burdened themselves with degrees in medicine and surgery. Only recently applications were called for the most suitable medical man for the Commonwealth with effective war service, to organize and administer our important Army Medical Services at a salary less than that made by the average experienced practitioner and considerably less than that given to the gentleman who acts as Secretary to Mr. Hughes.

Coming to mental superintendents, the Government of New South Wales has endeavoured to do some justice to the leaders of a branch of medicine which in your leading article you rightly described as "highly important." But this measure of justice is merely a step in the required direction. By the time a man has acquired the necessary experience, both clinical and administrative, and has after years of patient work received the post of medical superintendent, he is usually a man advancing in years, with many obligations of a domestic and social nature and, alas, with a small purse! Contrast this man's position with that of any other man who, after an equal or even less amount of hard and painstaking work, arrives at a corresponding position in obstetrics, dermatology or any other special branch of medicine and what is the result? Surely it is one which reflects grave discredit on the Governments of the various States.

Your correspondent points out that in England superintendents are paid as much as £1,500 *per annum*. And yet those superintendents have exactly similar duties and responsibilities to those of Australian superintendents. I am sure that all reasonable people will agree with "A Victorian Medical Superintendent" that £1,000 *per annum* and allowances is not too much to ask for and I join with him in hoping that the Association—of which all superintendents are active members—will take steps to secure this salary for superintendents in all the States.

The time has arrived when even university graduates may learn a lesson in tactics from that modern aristocrat, the labourer. And so it behoves us to unite, even without the aid of red flags and union secretaries, and let our voice be heard.

I trust, sir, that other superintendents will join in protesting against a state of affairs that imposes real injustice on a worthy calling.

Yours, etc.,  
"ANOTHER SUPERINTENDENT."

May 25, 1921.

### Books Received.

- A COMPEND OF HUMAN PHYSIOLOGY: Especially Adapted for the use of Medical Students, by Albert P. Brubaker, A.M., M.D., Fifteenth Edition; 1921. Philadelphia: P. Blakiston's Son & Company; Crown 8vo., pp. 264, illustrated by 26 Figures. Price, \$2.00.
- MICROBIOLOGY: A Text-book of Microorganisms, General and Applied, by various authors, Edited by Charles E. Marshall, Third Edition, revised and enlarged; 1921. Philadelphia: P. Blakiston's Son & Company; Demy 8vo., pp. 1,043, illustrated by 198 Figures. Price, \$4.00.
- KIMPTON'S ESSENTIAL SERIES: ESSENTIALS OF MEDICAL ELECTRICITY, by Elkin P. Cumberbatch, M.B., B.M., B.Ch., M.R.C.P., Fifth Edition, revised and enlarged; 1921. London: Henry Kimpton; Crown 8vo., pp. 388, illustrated by 11 plates and 76 illustrations. Price, 10s. 6d. net.

### Medical Appointments.

Dr. J. S. Mackay (B.M.A.) has been appointed Medical Superintendent of the Alfred Hospital, Melbourne, Dr. W. H. Collins (B.M.A.) having resigned.

Dr. R. H. Hemstead (B.M.A.) has been appointed District Medical Officer and Public Vaccinator at Carnarvon, Western Australia.

The appointment as Public Vaccinators of Dr. R. S. Whitford (B.M.A.) at Drouin, of Dr. M. R. Healy (B.M.A.) at Footscray and of Dr. J. R. L. Willis at Learmonth, is announced in the *Victoria Government Gazette* of May 19, 1921.

The appointment of Dr. R. B. Carter (B.M.A.) is announced as Government Medical Officer at Bowraville, New, South Wales.

Dr. R. A. McWilliam Robinson (B.M.A.) has been appointed Government Medical Officer at Tea Gardens, New South Wales.

Under the provisions of the *Workers' Compensation Act, 1915*, Dr. Michael R. Healy (B.M.A.) has been appointed Certifying Medical Practitioner at Footscray.

The appointment of Dr. H. W. Moxon as District Medical Officer and Public Vaccinator at Northampton, Western Australia, is announced in the *Government Gazette of Western Australia*.

### Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xiv.

Victorian Eye and Ear Hospital: Resident Surgeon.

Hookworm Campaign: Medical Officer.

New South Wales Department of Works: Resident Medical Officer for the Murrumbidgee Irrigation Areas.

### Medical Appointments.

#### IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

| Branch.   | APPOINTMENTS.   |
|---|---|
| <b>NEW SOUTH WALES.</b><br>(Hon. Sec., 30-34 Elizabeth Street, Sydney.) | Australian Natives' Association.<br>Ashfield and District Friendly Societies' Dispensary.<br>Balmain United Friendly Societies' Dispensary.<br>Friendly Society Lodges at Casino.<br>Leichhardt and Petersham Dispensary.<br>Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney.<br>Marrickville United Friendly Societies' Dispensary.<br>North Sydney United Friendly Societies.<br>People's Prudential Benefit Society.<br>Phoenix Mutual Provident Society. |

| Branch.  | APPOINTMENTS.   |
|--|---|
| <b>VICTORIA.</b><br>(Hon. Sec., Medical Society Hall, East Melbourne.)                                     | All Institutes or Medical Dispensaries.<br>Manchester Unity Independent Order of Oddfellows.<br>Australian Prudential Association Proprietary, Limited.<br>Mutual National Provident Club.<br>National Provident Association. |
| <b>QUEENSLAND.</b><br>(Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)                             | Australian Natives' Association.<br>Brisbane United Friendly Society Institute.<br>Stannary Hills Hospital.   |
| <b>SOUTH AUSTRALIA.</b><br>(Hon. Sec., 3 North Terrace, Adelaide.)   | Contract Practice Appointments at Renmark.<br>Contract Practice Appointments in South Australia.  |
| <b>WESTERN AUSTRALIA.</b><br>(Hon. Sec., 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.) | All Contract Practice Appointments in Western Australia.  |
| <b>NEW ZEALAND: WELLINGTON DIVISION.</b><br>(Hon. Sec., Wellington.)                                       | Friendly Society Lodges, Wellington, New Zealand.   |

### Diary for the Month.

- June 21.—N.S.W. Branch, B.M.A.: Executive and Finance Committee.
- June 23.—Clinical Meeting at the Hospital for Sick Children, Brisbane.
- June 24.—Q. Branch, B.M.A., Council.
- June 24.—N.S.W. Branch, B.M.A..
- June 28.—N.S.W. Branch, B.M.A.: Medical Politics Committee: Organization and Science Committee.
- June 29.—Vic. Branch, B.M.A., Council.
- June 30.—S. Aust. Branch, B.M.A., Annual.
- July 1.—Q. Branch, B.M.A..
- July 5.—N.S.W. Branch, B.M.A., Council (Quarterly).
- July 6.—Vic. Branch, B.M.A..
- July 8.—N.S.W. Branch, B.M.A., Clinical.
- July 8.—Q. Branch, B.M.A., Council.
- July 8.—S. Aust. Branch, B.M.A., Council.
- July 12.—N.S.W. Branch, B.M.A., Ethics Committee.
- July 12.—Tas. Branch, B.M.A..
- July 13.—Melb. Paediatric Society (Vic.).
- July 14.—Vic. Branch, B.M.A., Council.
- July 19.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
- July 20.—Federal Committee of the B.M.A. in Australia.
- July 20.—W. Aust. Branch, B.M.A..
- July 22.—Q. Branch, B.M.A., Council.

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